



# Panasonic

ideas for life

## FOR PC BOARD TO WIRE

# WIRE-PRESS SOCKETS (AXW)

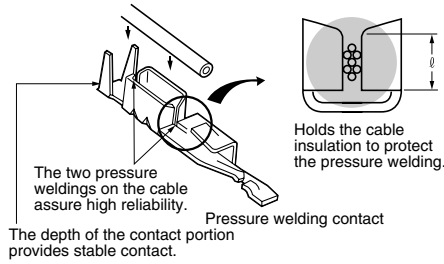


### FEATURES

**1. Pressure welding method for superior wiring and no need to strip wires.**

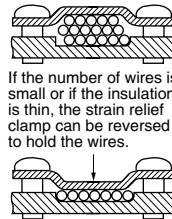
Applicable wires: AWG #22, #24, #26, #28.

**2. Two pressure weldings assure high contact reliability.**

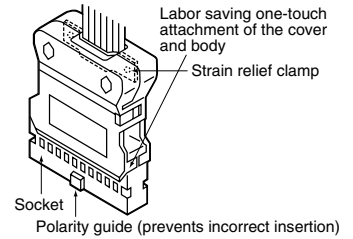


**3. Labor saving one-touch attachment of the cover and socket body.**

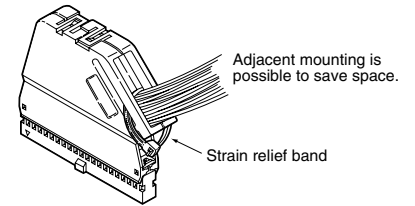
**4. Even if the number of wires is small, the stable pressure welding is acquired.**



**5. Angled hood cover type can save space and makes adjacent mounting possible.**



Vertical hood cover type



Angled hood cover type

**6. Fits MIL headers and low profile headers (box and open types).**  
**7. Useful pressure welding tools are available.**

### APPLICATIONS

NC machine, automated equipment, office automation equipment, ME equipment, measurement equipment, communications equipment, amusement and game equipment.

Compliance with RoHS Directive

## ORDERING INFORMATION

### 1. Socket

AXW 1 [ ] [ ] [ ] [ ] 1 A

1: Wire-press sockets (Socket)

<No. of contacts (2 digits)>

<Configuration and polarity guide position>

4: No polarity guide for 10 contact type, types with other number of contacts have 1 polarity guide in middle.

9: Polarity guide in middle for 10 contact type.

<Applicable cable>

Nil: Without contact

2: Pressure welding AWG#22 to #24

3: Pressure welding AWG#26 to #28

<Surface treatment (Pressure welding portion/Terminal portion)>

Nil: Without contact

1: Au plating/Sn plating

<Package form>

A: Individual package



## 2. Socket (Set)

AXW **3**      **1** **A**

3: Wire-press sockets (Set)

<No. of contacts (2 digits)>

<Cover shape>

1: Semi-covers

2: Vertical type hood cover

3: Angle type hood cover

<Configuration and polarity guide position>

4: No polarity guide for 10 contact type,  
types with other number of contacts have 1 polarity guide in middle.

9: Polarity guide in middle for 10 contact type.

<Applicable cable>

Nil: Without contact

2: Pressure welding AWG#22 to #24

3: Pressure welding AWG#26 to #28

<Surface treatment (Pressure welding portion/Terminal portion)>

Nil: Without contact

1: Au plating/Sn plating

<Package form>

A: Individual package

## 3. Cover

AXW **6**   **0**  **A**

6: Wire-press sockets (Cover)

<No. of contacts (2 digits)>

<Connecting wires>

0: Pressure welding method

<Cover shape>

1: Semi-covers

2: Vertical type hood cover

3: Angle type hood cover

<Package form>

A: Individual package

## 4. Contact

AXW **7** **2**  **1**

7: Wire-press sockets (Contact)

<Sales form>

2: 5 in line

<Applicable cable>

2: Pressure welding AWG#22 to #24

3: Pressure welding AWG#26 to #28

<Surface treatment (Pressure welding portion/Terminal portion)>

1: Au plating/Sn plating



# WIRING AND ASSEMBLY

## 1. When using small amounts (about 150 pins can be pressure welding per hour)

Process	1. Bend the contact back from the carrier, and set it in the pressure welding tool.	2. Insert the wire without removing its insulation unit it stops, and lightly grip the tool.	3. After press-fitting the wire, insert it into housing.	4. Attach the cover to complete the operation. (Note)
Necessary parts	<p>Stapler type AXY52000</p> <p>Contacts (5 in line)</p>	<p>Separate wires</p>	<p>Housing without contacts</p>	<p>Vertical type hood cover block</p>

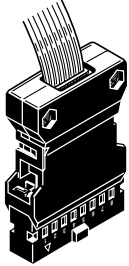
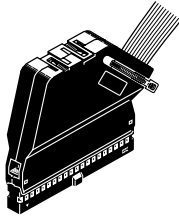
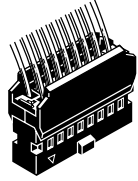
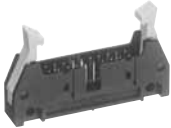

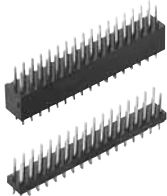
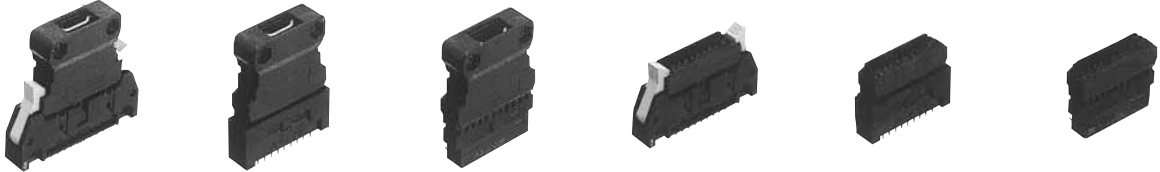
Note) There are 3 types of cover: semi-covers, vertical type hood cover blocks, and angle type hood cover blocks.

## 2. When using medium to large amounts (when using pliers-type pressure welding tool, about 450 pins per hour)

Process	1. Set the housing with contact in the pressure welding tool.	2. Insert the wires with insulation attached, until they touch the back, then use the tool's pressure welding operation.	3. Attach the cover to complete the operation. (Note)
Necessary parts	<p>Housing with contacts</p> <p>Pliers-type AXY51000</p>	<p>Separate wires</p>	<p>Vertical type hood cover block</p>

Note) There are 3 types of cover: semi-covers, vertical type hood cover blocks, and angle type hood cover blocks.

**APPLICABLE HEADERS AND COMBINATIONS**

<p>Pressure socket for separate wires</p>	 <p>Vertical type hood cover block</p>	 <p>Angled type hood cover block</p>	 <p>Semi-cover Note) With cover installed on socket</p>
+			
<p>Applicable headers</p>	 <p>Long lever type MIL header</p>	 <p>Box type low profile header</p>	 <p>Open type low profile header</p> <p>7.4mm high type</p> <p>2.54mm high type</p>
↓			
<p>Combinations</p>	 <p>Note) Loose wires omitted from photos</p>		

**PRODUCT TYPES****1. Individual parts (Standard)**

Type	No. of contacts	Part No.		Packing			
		Applicable cable		Inner carton	Outer carton		
		AWG #22, 24	AWG #26, 28				
Housing	Housing with contacts Note) Suitable for use of pliers type or desktop type pressure welding tool.	10	AXW110421A (Without polarity guide)	AXW110431A (Without polarity guide)	100 pcs.	400 pcs.	
		10	AXW110921A (With polarity guide)	AXW110931A (With polarity guide)			
		14	AXW114421A	AXW114431A			
		16	AXW116421A	AXW116431A			
		20	AXW120421A	AXW120431A			
		26	AXW126421A	AXW126431A			
		30	AXW130421A	AXW130431A			
		34	AXW134421A	AXW134431A			
		40	AXW140421A	AXW140431A			
		50	AXW150421A	AXW150431A			
	60	AXW160421A	AXW160431A				
	64	AXW164421A	AXW164431A				
	Housing without contacts Note) Suitable for use of stapler-type pressure welding tool.	10	AXW1104A (Without polarity guide)		100 pcs.	400 pcs.	
		10	AXW1109A (With polarity guide)				
		14	AXW1144A				
		16	AXW1164A				
		20	AXW1204A				
		26	AXW1264A				
		30	AXW1304A				
34		AXW1344A					
40		AXW1404A					
50		AXW1504A					
60	AXW1604A						
64	AXW1644A						
Cover	Hood cover block	Vertical type	16	AXW61602A		100 pcs.	400 pcs.
			20	AXW62002A			
			26	AXW62602A			
			30	AXW63002A			
			34	AXW63402A			
		Angled type	40	AXW64002A		50 pcs.	200 pcs.
			50	AXW65002A			
			60	AXW66002A			
			64	AXW66402A			
			26	AXW62603A			
	30	AXW63003A					
	34	AXW63403A					
	40	AXW64003A					
	50	AXW65003A					
	Semi-cover	60	AXW66003A		100 pcs.	400 pcs.	
		64	AXW66403A				
		10	AXW61001A				
		14	AXW61401A				
		16	AXW61601A				
		20	AXW62001A				
26		AXW62601A					
30		AXW63001A					
34		AXW63401A					
40		AXW64001A					
50	AXW65001A						
60	AXW66001A						
64	AXW66401A						
Contacts (5 in line) (Notes 5 and 6)		5	AXW7221 (for AWG #22, 24)	AXW7231 (for AWG #26, 28)	40 rows (200pcs.)	400 rows (2,000 pcs.)	

Notes) 1. The parts above are packaged individually. (Contact is tray packing)

2. The vertical type hood cover block is packaged with two covers (one with nuts), one wire bunding metal.

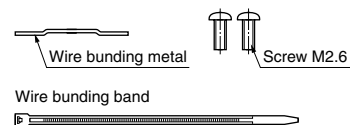
3. The angled type hood cover block is packaged with two covers and one wire bunding band.

4. The angled type hood cover for less than 20 contacts and the vertical type hood cover for less than 14 contacts are not available. Please use the semi-cover.

5. There is a mark "22" on contacts for AWG #22 and #24, and mark "26" for AWG #26 and #28.

6. Remarks for contacts

1) Reel packaging is available.





**2. Set products (produced after order)**

Set products are produced after an order is received, so if you have a tight deadline, please order the products on the above as stand-alone products.

Type	Set product		No. of contacts	Part No.		Packing					
	Socket	Cover		Applicable cable		Inner carton	Outer carton				
				AWG #22, 24	AWG #26, 28						
Full set (Note 1)	Housing with contacts	Vertical type hood cover block	16	AXW3162421A	AXW3162431A	50 pcs.	200 pcs.				
			20	AXW3202421A	AXW3202431A						
			26	AXW3262421A	AXW3262431A						
			30	AXW3302421A	AXW3302431A						
			34	AXW3342421A	AXW3342431A						
			40	AXW3402421A	AXW3402431A						
			50	AXW3502421A	AXW3502431A						
			60	AXW3602421A	AXW3602431A						
			64	AXW3642421A	AXW3642431A						
			Angled type hood cover block	26	AXW3263421A			AXW3263431A			
				30	AXW3303421A			AXW3303431A			
				34	AXW3343421A			AXW3343431A			
				40	AXW3403421A			AXW3403431A			
				50	AXW3503421A			AXW3503431A			
		60		AXW3603421A	AXW3603431A						
		Semi-cover	64	AXW3643421A	AXW3643431A						
			10	AXW3101421A (Without polarity guide)	AXW3101431A (Without polarity guide)						
			10	AXW3101921A (With polarity guide)	AXW3101931A (With polarity guide)						
			14	AXW3141421A	AXW3141431A						
			16	AXW3161421A	AXW3161431A						
			20	AXW3201421A	AXW3201431A						
			26	AXW3261421A	AXW3261431A						
			30	AXW3301421A	AXW3301431A						
			34	AXW3341421A	AXW3341431A						
			40	AXW3401421A	AXW3401431A						
		Half-set (Note 2)	Housing without contacts	Vertical type hood cover block	16			AXW31624A		50 pcs.	200 pcs.
					20			AXW32024A			
					26			AXW32624A			
					30			AXW33024A			
					34			AXW33424A			
40	AXW34024A										
50	AXW35024A										
60	AXW36024A										
64	AXW36424A										
Angled type hood cover block	26				AXW32634A						
	30				AXW33034A						
	34				AXW33434A						
	40				AXW34034A						
	50				AXW35034A						
	60			AXW36034A							
Semi-cover	64			AXW36434A							
	10			AXW31014A (Without polarity guide)							
	10			AXW31019A (With polarity guide)							
	14			AXW31414A							
	16			AXW31614A							
	20			AXW32014A							
	26			AXW32614A							
	30			AXW33014A							
	34			AXW33414A							
	40			AXW34014A							
50	AXW35014A										
60	AXW36014A										
64	AXW36414A										

Notes) 1. Full-set products (Housing with contact and cover included)

(1) Suitable for use with pliers type.

(2) Produced after an order is received. If you are in a hurry, please order a housing with contact and cover separately from the list above.

2. Half-set products (Housing without contact and cover included)

(1) Suitable for use with stapler-type pressure welding tool

(2) As half-sets do not include a contact, order the appropriate stand-alone contact from the list above.

(3) Produced after an order is received. If you are in a hurry, please order a housing without contact, contacts and cover separately from the list on page 235.



# SPECIFICATIONS

## 1. Characteristics

Item		Specifications	Conditions
Electrical characteristics	Rated current	AWG#22, 24: 3A, AWG#26: 2A, AWG#28: 1A	
	Rated voltage	250V AC	
	Breakdown voltage	1,000V AC for 1 min.	Detection current: 1mA
	Insulation resistance	Min. 1,000MΩ	Using 500V DC megger
	Contact resistance	Max. 20mΩ	Measured based on the HP4338B measurement method of JIS C 5402
Mechanical characteristics	Unit removal force	Min. 0.343N {35gf}	Measured by steel-pin-gauge with 0.64±0.01mm square (surface roughness 0.1μm)
	Composite insertion force	Max. 2.94N {300gf} × No. of contacts	
Life time characteristics	Insertion and removal life	500 times	Repeat insertion and removal speed of max. 600 times/hour
Environmental characteristics	Ambient temperature	-50°C to 105°C	No freezing at low temperatures Ambient temperature of cables should be considered
	Vibration resistance	Double amplitude: 1.52mm Frequency: 10 to 55Hz (for 3 axes)	No interruption of current longer than 1μs (Max. carrying current 100mA should be impressed during the test)
	Shock resistance	490m/s <sup>2</sup> {50G} (for 3 axes)	No interruption of current longer than 1μs (Max. carrying current 100mA should be impressed during the test)

## 2. Materials and surface treatment

Part name		Materials	Surface treatment
Housing		Glass fiber reinforced PBT (UL94V-0)	—
Cover	Semi-cover	Glass fiber reinforced PBT (UL94V-0)	—
	Hood cover	Glass fiber polycarbonate resin (UL94V-0) Vertical type hood cover (16, 20 contact)	—
Contact		Copper alloy	Contact portion: Ni plating on base, Au plating on surface Contact pressure portion: Ni plating on base, Sn plating on surface
Lead wire bundling metal (enclosed with vertical type hood cover)		Steel plate	—
Lead wire bundling band (enclosed with angled type hood cover)		Polyimide resin	—

## 3. Applicable cable

No.	Cross section area	External figure	Rated current	Remarks
AWG#22	0.3 mm <sup>2</sup>	1.5 to 1.1 dia.	3A	12 wires/0.18 should used
AWG#24	0.2 mm <sup>2</sup>		3A	
AWG#26	0.14mm <sup>2</sup>	1.3 to 1.1 dia.	2A	
AWG#28	0.08mm <sup>2</sup>		1A	

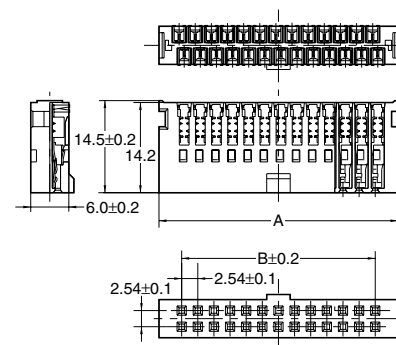
**DIMENSIONS** (Unit: mm) The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://panasonic-electric-works.net/ac>

### • Housing with contacts

**CAD Data**

Dimension table (mm)

No. of contacts	Polarity guide	A	B
10	0	17.3	10.16
10	1	17.3	10.16
14	1	22.4	15.24
16	1	24.9	17.78
20	1	30.0	22.86
26	1	37.6	30.48
30	1	42.7	35.56
34	1	47.8	40.64
40	1	55.4	48.26
50	1	68.1	60.96
60	1	80.8	73.66
64	1	85.9	78.74



General tolerance: ±0.3

Note) Dimensions of the housing without contact is the same as the right figure.

• **Socket**

1) When vertical type hood covers are mated (16, 20, 26, 30, 34, 40, 50, 60 and 64 contacts)

**CAD Data**

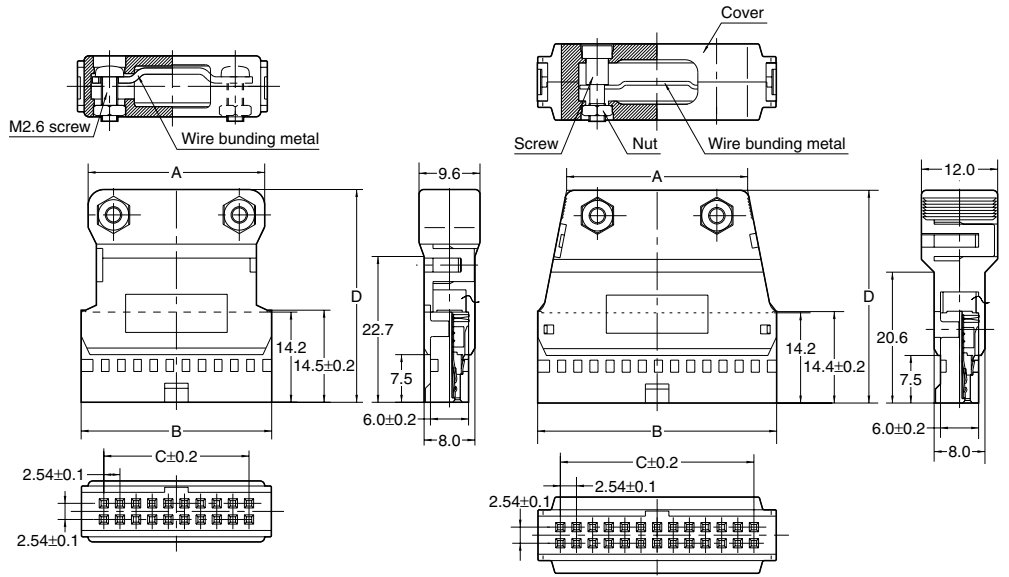


Dimension table (mm)

No. of contacts	A	B	C	D
16	24.0	24.92	17.78	33.5
20	27.8	30.0	22.86	33.5
26	28.5	37.6	30.48	33.5
30	33.5	42.7	35.56	33.5
34	38.6	47.8	40.64	33.5
40	43.6	55.4	48.26	41.5
50	56.0	68.1	60.96	41.5
60	68.7	80.8	73.66	41.5
64	73.8	85.9	78.74	41.5

16 and 20 contacts

26 to 64 contacts



General tolerance: ±0.3

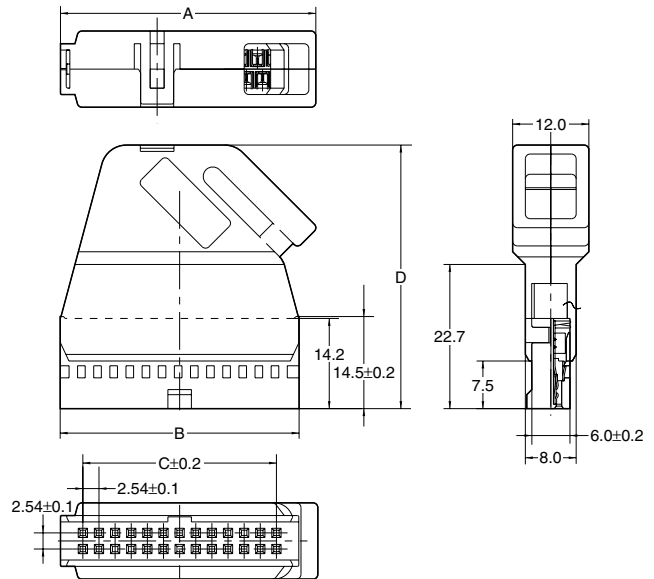
2) When angle type hood covers are mated (26, 30, 34, 40, 50, 60 and 64 contacts)

**CAD Data**



Dimension table (mm)

No. of contacts	A	B	C	D
26	40.5	37.5	30.48	41.5
30	45.6	42.6	35.56	41.5
34	50.7	47.7	40.64	41.5
40	62.5	55.3	48.26	52.5
50	75.2	68.0	60.96	52.5
60	87.9	80.7	73.66	52.5
64	93.0	85.8	78.74	52.5



General tolerance: ±0.3

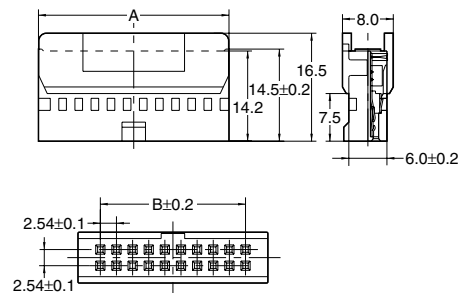
3) When semi-covers are mated

**CAD Data**



Dimension table (mm)

No. of contacts	A	B
10	17.3	10.16
14	22.38	15.24
16	24.92	17.78
20	30.0	22.86
26	37.62	30.48
30	42.7	35.56
34	47.78	40.64
40	55.4	48.26
50	68.1	60.96
60	80.8	73.66
64	85.88	78.74



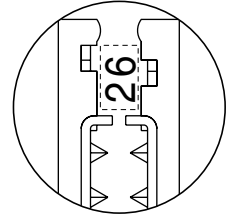
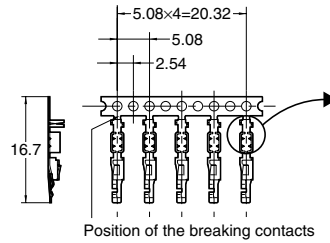
General tolerance: ±0.3





4) Contacts (5 in line)

**CAD Data**



Note) On the contacts there are stamps "22" for AWG #22 and #24 types, and "26" for AWG #26 and #28 types.

General tolerance: ±0.3

**NOTES**

**1. Use wires and contact types that match.**

The contact's clamp is tamped with 22 or 26.

Use AWG#22 or #24 wire with the type 22 contact and AWG #26 or #28 wire with the type 26 contact.

An incorrect combination will cause faulty connections.

**2. Use wires having a correct outer insulation diameter.**

The use of a wire with an outer insulation diameter larger than the allowable value or a wire with a hard material for the insulation will cause faulty connections.

Furthermore, the use of a wire with an outer insulation diameter less than the allowable value will cause a drop in the clamp strength. Use wires with a suitable outer diameter and insulation material. Suitable wire diameters are shown in the table below.

**Suitable wire diameters**

Size	Insulation outer diameter	Remark
AWG#22	1.5 dia. to 1.1 dia.	AWG #22 is Stranded wire of 12 stands/0.18
AWG#24		Stranded wire
AWG#26	1.3 dia. to 1.1 dia.	Stranded wire
AWG#28		

\* AWG#22 and #24 use different contacts from AWG#26 and #28. Refer to the part number chart for the part number.

**3. Inserted wire length during wire pressure welding**

Insert the wire to a proper length and perform the pressure welding.

If the inserted length is too short, the wire will be pressure welded only at one location.

If the inserted length is too long, the wire will end up on the lance portion and a proper pressure welding will not be obtained.

**4. Cut the end of the wire so that it is straight and flat. Be sure no uneven strands remain.**

**5. When pressure welding a wire, fully insert it to the proper position. Be sure to squeeze the lever unit it reaches the end position of the stroke.**

**6. After connecting the wire, check that the wire clamp firmly clamps the wire.**

**7. It may not be possible to cut a contact from the carrier by folding the contact only once.**

**8. The contact holder should be replaced as needed.**

For other details, please verify with the product specification sheets.

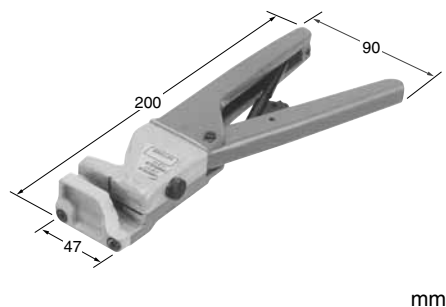


# PRESSURE WELDING TOOLS FOR SEPARATE WIRES

## PRODUCT TYPES

Product name		Part No.	Packaging	
			Inner carton	Outer carton
Pressure welding tool	Pliers type pressure welding tool for separate wires (with feed mechanism)	AXY51000	—	1 pc.
	Stapler type pressure welding tool for separate wires	AXY52000	—	
Accessory	Contact holder	AXY5801	—	200 pcs.

### • Pliers-type (with feed mechanism)



Pliers-type pressure welding tool for separate wires (with feed mechanism)  
AXY51000

Compliance with RoHS Directive

## FEATURES

**1. Weight balanced design for lightweight handling.**

**2. Lever Lock Mechanism Allows Reliable Pressure Welding**

The lever lock mechanism prevents the lever from returning until the predetermined stroke is reached. This allows for reliable pressure welding, preventing variation due to differences between individual workers.

**3. Automatic feed mechanism indicates the pressure welding terminal number after a pressure welding.**

After each pressure welding, the automatic feed is performed one pitch at a time (2.54mm). At the same time, the number of the connector terminal being pressure-welded is indicated. If the terminal number is set initially, the connector can be moved to any position with the correct terminal number always displayed since the tool is directly linked with the connector.

**4. Stroke adjustment feature.**

The pressure welding stroke can be adjusted to match the diameter of the cable wire for reliable connections.

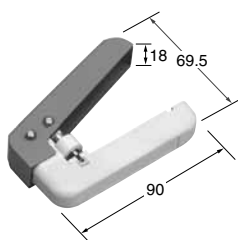
**5. Enables pressure welding of both the socket with contacts and individual contacts.**

A cable can be connected with the contacts positioned in the socket housing (socket housing with contacts) or with the individual contacts separated from the socket housing.

**6. Contact puller feature.**

The contact puller permits incorrectly connected or unnecessary contacts to be pulled out.

### • Stapler type



Stapler type pressure welding tool for separate wires  
AXY52000

Compliance with RoHS Directive

## FEATURES

1. Compact and lightweight, it fits in a pocket.

2. Pressure-weld individual contacts.

3. Convenient for on-site maintenance work since connection is possible in small spaces.

4. Includes a contact puller.

## NOTES

1. Never disassemble the tool. Also, do not subject it to shock or drop it from a high place.

For other details, please verify with the product specification sheets.