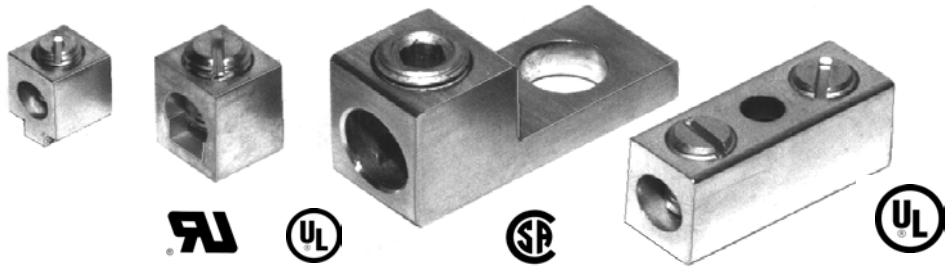
IHI Connectors®

IHICONNECTORS.COM ®



We manufacture Custom and Standard Electrical Connectors.

- On time delivery. ✔
- Certified quality to the print. ✔
- Priced to keep you coming back. ✔

ANY QUESTIONS?

Call Charles Ridley (ext. 103)
to discuss your needs: 440-951-7186 Fax: 440-951-1071
e-mail: Charles Ridley: cRidley@ihinet.com

IHI Connectors ®, International Hydraulics Inc.
7638 St. Clair Avenue, Mentor, OH 44060-5236

MISSION STATEMENT

To be the industry leader in the special application of automatic, multiple rotating tool, transfer machining of non-ferrous extruded shapes for the electrical connector market .

Our customers are medium to large volume manufacturers and distributors. We specialize in the Electrical Industry.

We provide:

- **Design and Build of Special Equipment with which to serve our customers needs.**
- **Just-In-Time and Flexible Delivery Schedules for low, medium and high volume production.**
- **Certified Quality driven by computerized in process SPC and ISO 9000 conformant quality systems.**
- **Pricing combined with Service Levels which provide value beyond our competitors' reach.**
- **Design-For-Manufacturing Engineering Services.**
- **Prototyping Services.**
- **Assembly services to our customers' requirements.**
- **UL and Canadian Standards pre-testing service laboratory.**

The strategic advantage employed by IHI to achieve its mission: The Company employees' ability to conceive, design, build, program, tool, run maintain and improve, specialized Computer Controlled Equipment optimized for machining and assembly of customers' low, medium and high volume parts.

The company applies this advantage in an atmosphere of competitive team spirit and of continuous improvement in safety, quality, cost reduction, and environmental. IHI recycles all waste fluids.

COMPANY PROFILE

Incorporated in 1977 by founder and mathematics graduate Ned H Shiflett, the business started operations in 1981. IHI initially produced hydraulic drilling and tapping self-feeder units and built special machinery for a variety of industrial customers. Using his prior experience in the electrical connector industry, Mr. Shiflett quickly established the Company as a custom machining house for electrical connectors. Having grown steadily since its first year of operations, IHI Connectors ™ is now a valuable partnership resource for large and small OEM's and distributors requiring service and quality in a very competitively priced market sector. The Company operates in 34,000 square feet with about 50 employees.
Charles Ridley joined the Company in 1993, and became Mr. Shiflett's partner in 1996. Bringing with him a BSME and a background in machine tools, manufacturing and sales, IHI Connectors® is able to continue its thrust into advanced technology special machinery to serve its connector customers unusually well.

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys
Products: • Box Connectors • Splicers • Lugs • Grounding
Wire Sizes: 14 AWG to 1000 MCM

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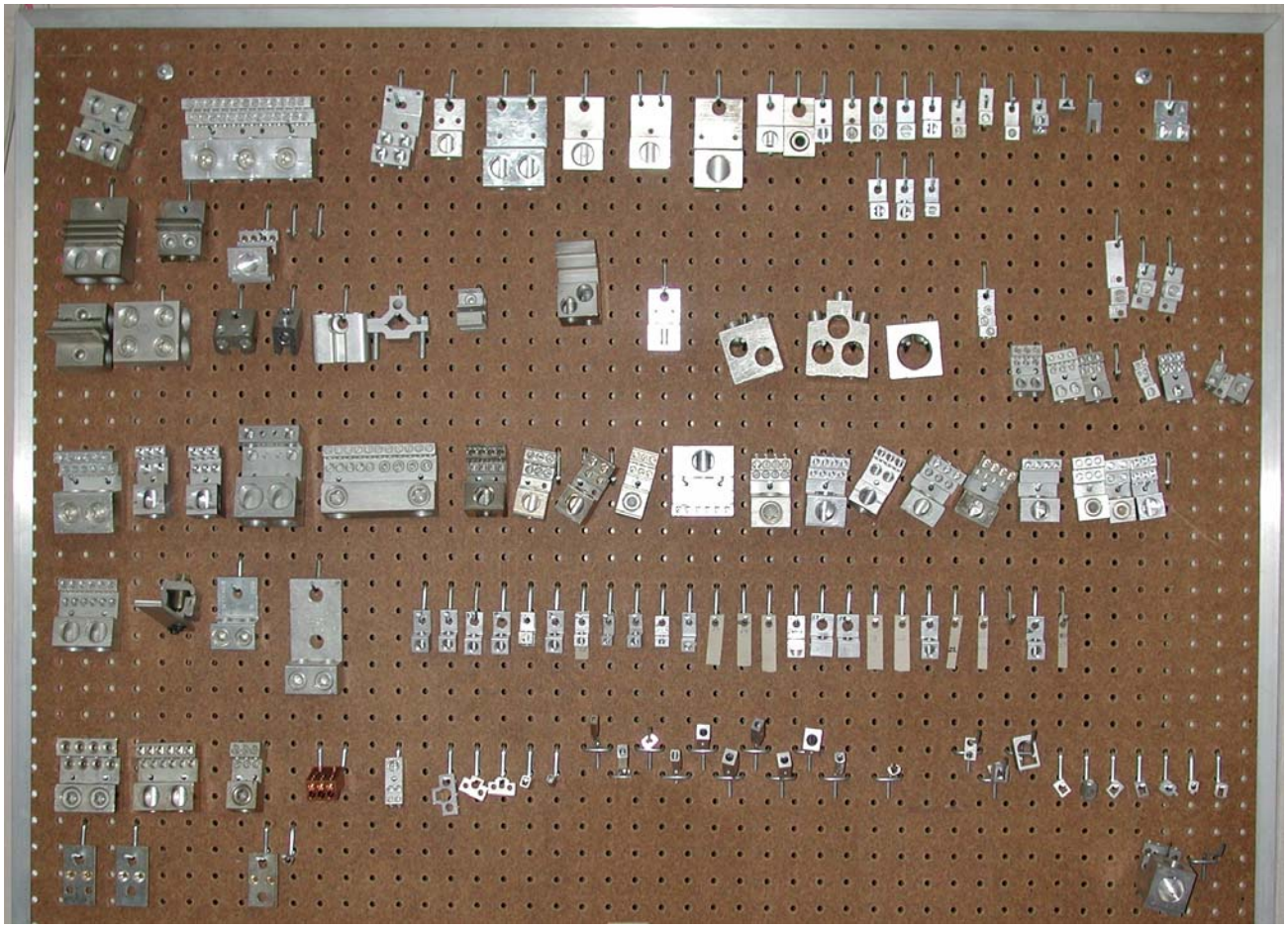
IHI® Connectors

IHICONNECTORS.COM ®

SAMPLE BOARD OF TYPICAL IHI PRODUCTION CAPABILITY



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Connectors

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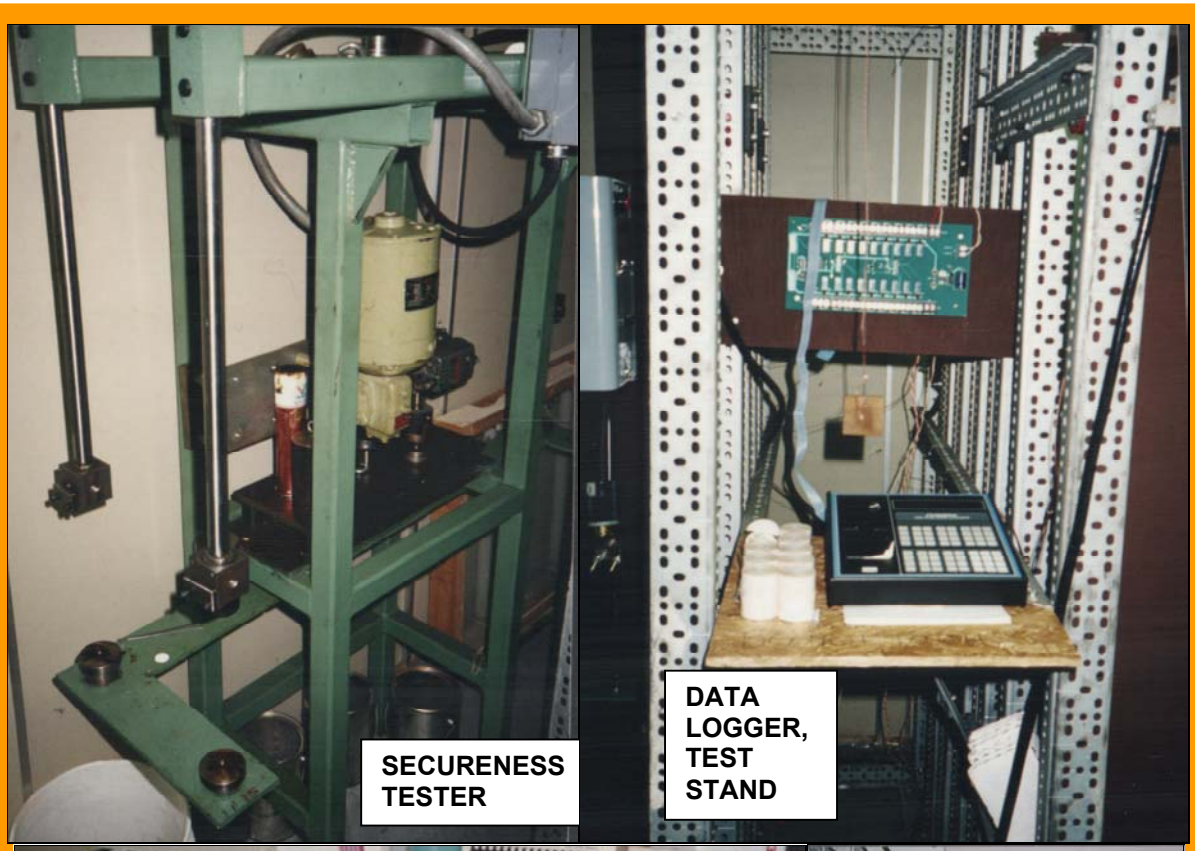
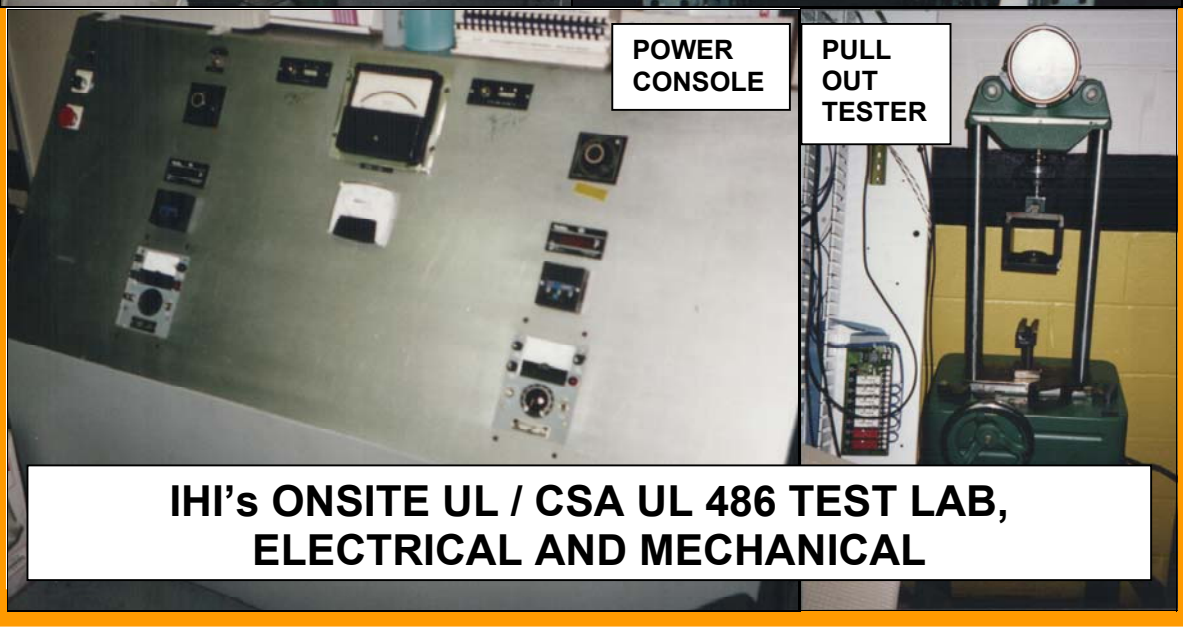




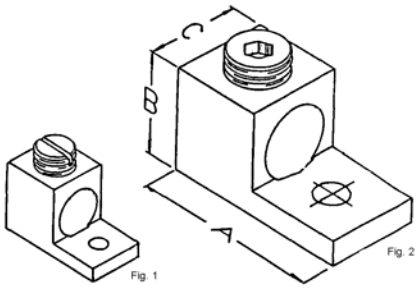
IHI's ONSITE UL / CSA UL 486 TEST LAB, ELECTRICAL AND MECHANICAL

IHI® Connectors

IHICONNECTORS.COM ®

S Series Lugs

Tin Plated Aluminum for Single Copper or Aluminum Conductors



Wire Range	Catalog Number	Fig. No.	A	B	C	Bolt Size
AWG 6 –14	S 6	1	1-1/16	1/2	3/8	¼
AWG 6-14	S6W	1	1-1/16	1/2	1/2	¼
AWG 4 –14	S4	1	1-1/16	1/2	1/2	¼
AWG 2 –14	S 2	1	1-5/32	9/16	1/2	¼
AWG 1/0 –14	S 1/0	1	1-15/32	13/16	5/8	¼
AWG 2/0 –14	S 2/0	1	1-15/32	13/16	5/8	¼
250 MCM –6	S 250	2	2	1-1/16	29/32	5/16
300 MCM –6	S 300	2	2	1-1/16	29/32	5/16
350 MCM –6	S 350	2	2	1-1/8	1	5/16
500 MCM –6	S 500	2	2-3/4	1-1/2	1-3/8	3/8
600 MCM –4	S 600	2	2-3/4	1-1/2	1-3/8	3/8
750 MCM -4/0 *	S 750	2	3	1-1/2	1-7/16	5/16
800 MCM -300	S 800	2	2-15/16	1-15/16	1-5/8	5/8

* This part is UL Recognized, no CSA, others are UL Listed and CSA certified.

Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

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IHI® Connectors

IHICONNECTORS.COM

S2 Series Lugs

Tin Plated Double Aluminum Lugs for Copper and Aluminum Conductors

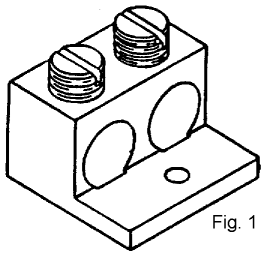

Fig. 1

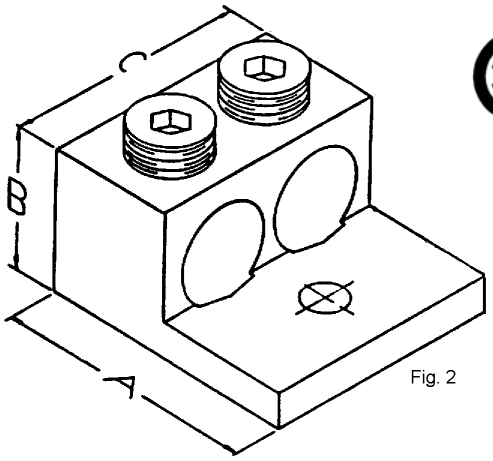

Fig. 2

Wire Range	Catalog Number	Fig. No.	A	B	C	Bolt Size
AWG 1/0 -14	2S1/0	1	1-15/32	13/16	1-1/8	1/4
AWG 2/0 -14	2S2/0	1	1-15/32	13/16	1-9/16	1/4
250 MCM -6	2S250	2	2-9/16	1-3/16	1-5/8	3/8
350 MCM -6	2S350	2	2-7/8	1-1/4	1-15/16	1/2
500 MCM -6 *	2S500	2	3.5	1.75	2.22	1/2
600 MCM -4	2S600	2	3-1/8	1-9/16	2-3/8	1/2
750 MCM -1/0	2S750	2	3-1/2	1-11/16	2-5/8	1/2

* UL Listed only, all others are UL Listed and CSA Certified

Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

ANY QUESTIONS?

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7638 St. Clair Avenue, Mentor, OH 44060-5236

IHI® Connectors

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B Series Box Connectors

Tin Plated Aluminum Box Connectors for Copper and Aluminum Conductors. Buss (or PCB) mounted.

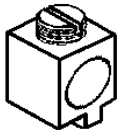
Fig. 1

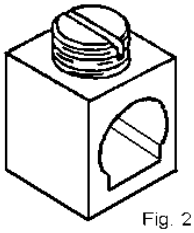
Fig. 2

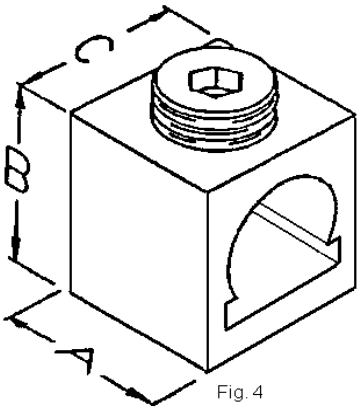

Fig. 4

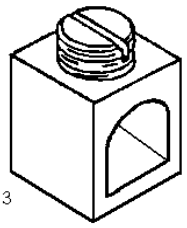
Fig. 3

Wire Range	Catalog Number	Fig. No.	A	B	C	Buss Width	PCB solderable?
AWG 12 –16 #	B12	3	.310	.45	.26	.13	YES, option
AWG 6 –18 *	B6A	1	.338	.49	.34	.14 PCB slot	YES, Standard
AWG 6 –14	B6B	2	.343	.53	.38	.22	
AWG 6 –16 #	B6C	2	.406	.56	.42	.25	
AWG 2 –14	B2A	2	.406	.56	.42	.25	YES, option
AWG 2 –14 #	B2B	3	.490	.58	.465	.324	
AWG 2 –14 *	B2C	2	.406	.66	.465	.25	YES, option
AWG 1/0 – 8**	B1/0	3	.625	.72	.565	.37	
300 MCM – 4 #	B300	4	.937	1.203	.795	.639	

(# UL Recognized only) (** c CSA us marked for USA & Canada) (* No UL/CSA.)

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

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IHI COLLAR (BOX) CONNECTORS FOR BUSS MOUNT OR PCB MOUNT CONNECT WIRE TO A BUSS OR A PRINTED CIRCUIT BOARD

Sales Cat #	Wire Range	UL Cat No.	CSA Cat No.	Buss Size	Buss Supplied by/ mat'l	Max Amps NEC 75C	Temp Rate	Wire Hole Dia	Screw Mat'l /size	Max Screw Torque In-lbs
B300	300–4	B300	-	.63 x .25	User alum	285A	75 C	.64/.67	Alum 5/8	200
B2A	2-14	B2	B2	.24 x .04	User cu/alloy	115A	75 C	.30	Steel 5/16	50
B2A	2-14	B2	-	.25 x .032	User cu/alloy	50A	75 C	.30	Steel 5/16	50
B2A-PCB	2-14	B2	B2	.24 x .05	IHI copper	115A *	75 C	.30	Steel 5/16	50
B2A1	2-16	B2A1	B2A1#	.25 x .047	User cu/alloy	50A	90 C	.30	Alum 5/16	50
B2A2	2-16	B2A2	B2A2#	.25 x .032	User cu/alloy	115A	90 C	.30	Alum 5/16	50
B2A2-PCB	2-16	B2A2	B2A2#		IHI copper	115A *	90 C	.30	Alum 5/16	50
B2B	2-14	B2B	--	.312 x .045	User cu/alloy	65A	90 C	.324/ .37	Steel 3/8	50
B2B-PCB	2-14	B2B	--	.312 x .045	User cu/alloy	65A*	90 C	.324/ .37	Steel 3/8	50
B2C	2-14	--	--	.24 x .04	User cu/alloy	115A	(75 C)	.324/ .37	Steel 5/16	50
B2C-PCB	2-14	--	--	.24 x .05	IHI copper	115A *	(75 C)	.324/ .36	Steel 5/16	50
B6-PCB	6-18	--	--	.34 x .14	IHI integral	35A*	(75 C)	.21	SSteel #12	25
B6B	6-14	B6B	B6B	.20 x .032	User cu/alloy	65A	75 C	.22	Steel 1/4	35
B12	12-16 cu	B12	--	.125 x .063	User cu/alloy	20A	75 C	.15	Steel #10 fill	20

1. Parts with –PCB suffix are printed circuit board wave solderable.

2. IHI can provide quote on providing buss where it is non-stock. UL Recognition and CSA Certification may be added on request where it is not currently available.

***Printed circuit application involving soldered joints may require a lower working temperature and therefore a lower maximum current based on the application and testing by the user.**

 # Canadian Certification is by UL via the "cUR" mark.

-- No UL approval available at date of printing.

-- No CSA approval available at date of printing.

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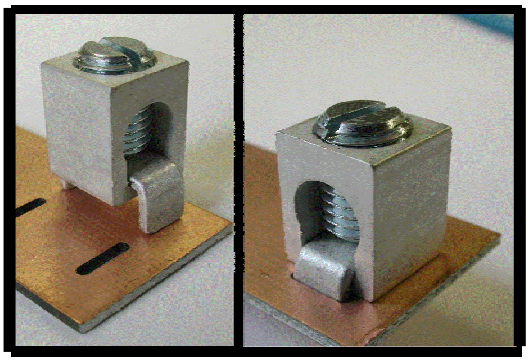
IHI® Connectors

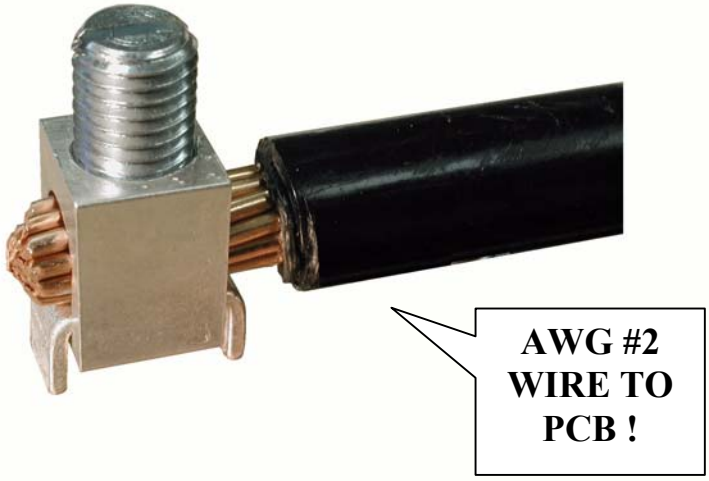
IHICONNECTORS.COM ®

2- 14 AWG B2A-PCB SOLDERABLE Connector

Tin Plated Aluminum Box Connector for Copper and Aluminum Conductors

PCB WAVE SOLDERABLE USING COPPER BUSS





Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

ANY QUESTIONS?

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IHI® Connectors

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B2A-PCB Printed Circuit Board Mounted Connector

The B2A-PCB is a sturdy, mechanical, screw type compression wire connector. The copper "buss staple" at the bottom is designed to be inserted into two slots in the printed circuit board. The connector can be used on .06" or .09" or .12" thick boards (leg is .13" high). Wave solderable. The B2A-PCB is aimed at 60-100 amp applications. Actual currents depend on mounted heat flow characteristics. Each application should be tested as constructed.

1. Material is 6061-T6 aluminum which is triple plated for corrosion resistance.
2. Aluminum has excellent heat dissipation characteristics and conductivity.
3. Buss staple and box connector have low thermal "inertia" which is compatible with wave soldering.
4. Plating type: Box: tin on copper on zinc. Buss staple: dull tin on copper.
5. Solderability testing can be offered to any special requirements.
6. Parts is supplied with a steel (zinc plated) screw. Option is an aluminum screw (tin plated).
7. Connector is UL recognized for 115 Amps AL7CU (75C°) rating with .047" buss supplied subject to UL approval of final PCB assembly. AL9CU (90C°) rating available with an aluminum screw.
8. B2A-PCB is AWG 2 to 14 capacity. Connectors with other capacities can be quoted.
9. Wire retaining screw torque for the 5/16 screw is 50 inch-pounds (UL standard for this screw). Mounted to a typical board, the soldered joint can withstand multiple 60 inch-pounds torque applications.
10. Typical torque applied by an AWG 2 stranded wire when forcibly bent while attached to a B2A-PCB is under 35 inch-pounds. (7strands x 0.1 dia.).
11. Other connectors can be custom made to meet customer specifications.

Customers should fully investigate the soldered interface with their PC board for adequate strength including (but not limited to) analysis of effects at anticipated operating temperatures, weight of hanging wires on creep strength, number of torque cycles on wire retention screw and thermal cycling effects on soldered interface. While standard property data and test data can be provided, no responsibility whatsoever will be taken for the mounted connector. IHI will however supply parts in accordance with agreed dime storage conditions, solderability may be reduced over time.

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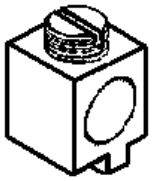
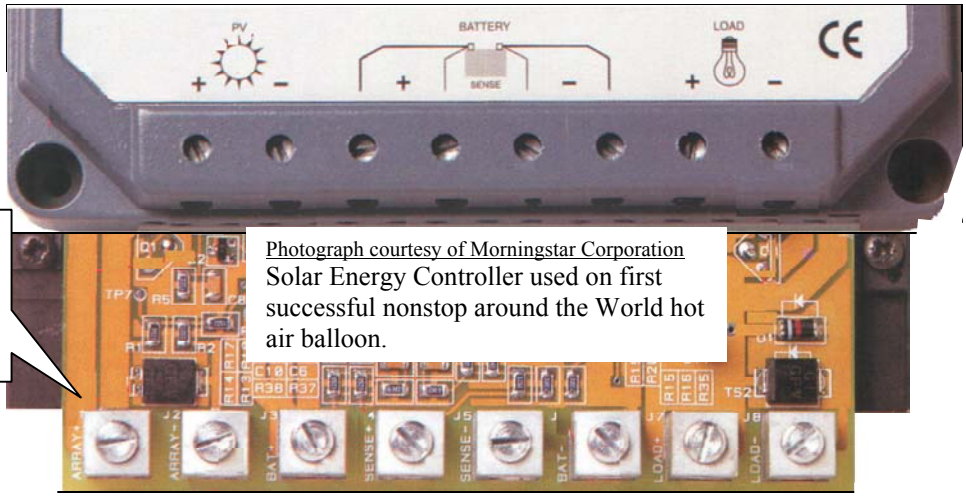
IHI® Connectors

IHICONNECTORS.COM ®

B6A-PCB Wave Solderable PCB Mounted # 6 AWG Wire Connector with Stainless Steel Screw





AWG # 6 WIRE DIRECTLY TO PCB !

Photograph courtesy of Morningstar Corporation
Solar Energy Controller used on first successful nonstop around the World hot air balloon.

Standard and Custom Connectors

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Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

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IHI® Connectors

IHICONNECTORS.COM ®

B6A–PCB Printed Circuit Board Mounted Connector

The “foot” is designed to be inserted into a slot in the printed circuit board. The connector can be used on .06” or .09” thick boards (foot is .10” high). Wave solderable.

1. Material is 6061 aluminum, which is triple plated for guaranteed solderability.
2. Aluminum has excellent heat dissipation characteristics.
3. Aluminum has low thermal mass, which is compatible with wave soldering.
4. Plating comprises: Tin bath dip on nickel on zinc.
5. Solderability testing can be set up to any special requirements can be offered.
6. Parts can be supplied with or without screws.
7. UL / CSA testing, if required, can be offered.
8. B6A-PCB is AWG 6. Connectors with AWG 2 capacity (B2A-PCB) and larger can be quoted.
9. Typical wire retaining screw torque for a 12-32 screw is 20 inch-pounds.
10. Typical torque applied by an AWG 6 stranded wire when forcibly bent while attached to a B6A-PCB is under 10 inch-pounds.
11. Other connectors can be custom made to meet customer specifications.
12. Operating limits for a typical customer application have been tested at: -90 C to +95 C . 6 axis vibration test at 20 C 45 grams.

Customers should fully investigate the soldered interface with their PC board for adequate strength including (but not limited to) analysis of effects at anticipated operating temperatures, weight of hanging wires on creep strength, number of torque cycles on wire retention screw and thermal cycling effects on soldered interface. While standard property data and test data can be provided, no responsibility whatsoever will be taken for the mounted connector. IHI will however supply parts in accordance with agreed dimensions and specifications. Depending on long-term storage conditions, solderability may be reduced over time.

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IHI® Connectors

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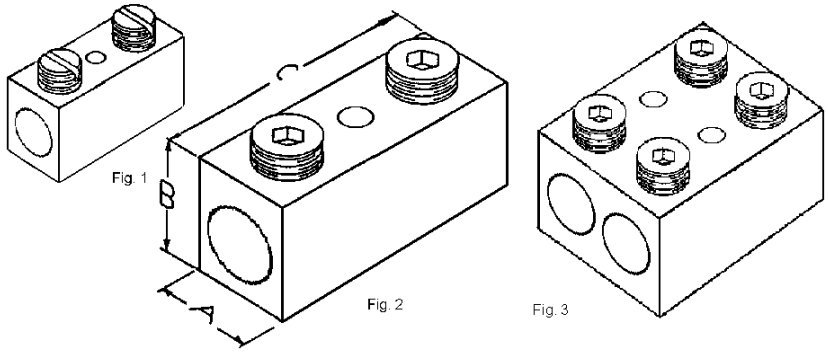
P Series Splicer / Reducer

Tin Plated Aluminum Splicers for Copper and Aluminum Conductors



Wire Range	Catalog Number	Fig. No.	A	B	C	Mtg. Hole
AWG 4 -14	P4	1	.375	.484	1.01	None
AWG 2 -14	P2	1	.450	.562	1.219	.218
AWG 2/0 -8	P2/0	2	.562	.703	1.59	.200
500 MCM -6	P500	2	1.14	1.25	2.75	.174 /.25
500 MCM -6	2P500	3	2.218	1.5	2.5	.167

Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

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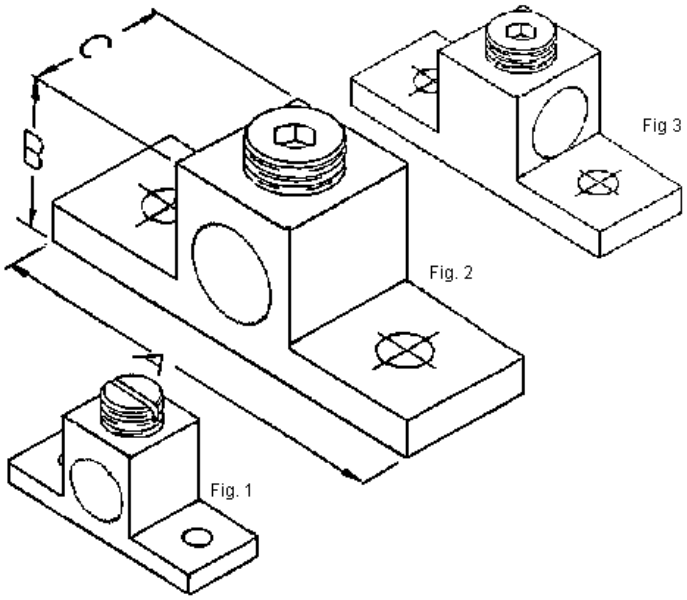
IHI® Connectors

IHICONNECTORS.COM ®

T Series Lugs

Tin Plated Aluminum for Single Copper or Aluminum Conductors



Wire Range	Catalog Number	Fig. No.	A	B	C	Bolt Size
AWG 2/0 -8	T2/0	2	1-11/16	0.9	5/8	#10
AWG 2/0 -14	T2/0A	3	1-11/16	0.9	5/8	#10
Other Sizes	Consult Factory	1, 2, 3				

Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

Wire Sizes: 14 AWG to 1000 MCM

ANY QUESTIONS?

Call Charles Ridley (ext. 103)

to discuss your needs. 440-951-7186 Fax 440-951-1071

e-mail: Charles Ridley: cRidley@ihinet.com

IHI Connectors ®, International Hydraulics Inc.

7638 St. Clair Avenue, Mentor, OH 44060-5236

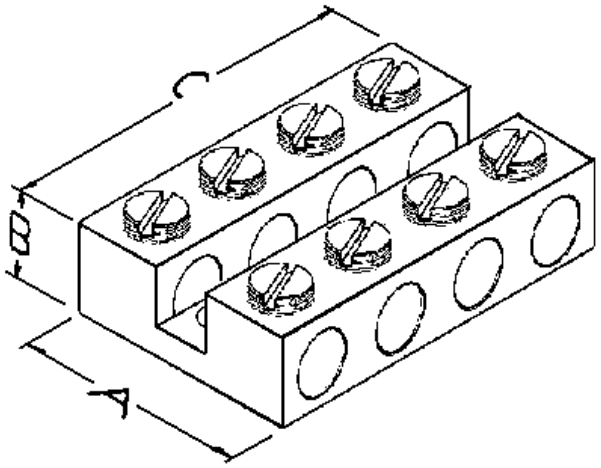
IHI™ Connectors

WWW.IHICONNECTORS.COM ®

N Series

Dual Neutral Bars

Tin Plated Aluminum for Copper and Aluminum Conductors



- Built in wire stops
- More compact than single bars
- No holes lost for mounting screws
- No additional mounting block required for dual bars

Wire Range	Catalog Number	No. of Poles	A	B	C	Mtg. Holes Diameter
AWG 4 -14	N4 – No. of Poles	1 to 20	.94	.44	(No. of Poles x .30) +.05	.21
AWG 2 -14	N2 – No. of Poles	1 to 20	1.07	.50	(No. of Poles x .36) +.07	.21

Standard and Custom Connectors

Materials: • Aluminum Alloys • Copper Alloys • Brass Alloys

Mechanical Products: • Box Connectors • Splicers • Lugs

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