

Welcome to the World of AirBorn Interconnect Solutions

CATALOG PAGES CURRENT AS OF MAY 2013 FOR MOST CURRENT CATALOG VISIT US AT WWW.AIRBORN.COM OR CLICK ON THE CATALOG PAGE REVISION

AirBorn has been manufacturing high reliability interconnect systems for more than 45 years with leading-edge, innovative technology that is more reliable and better-performing than practically all other alternatives.

Our advanced technologies, experienced design support, incomparable lead times and personalized customer service and support provide customers with complete solutions to a vast array of highly specialized design requirements in diverse markets and applications.

You will find in this catalog technical drawings and specification information that will help you solve your interconnection needs from the design stage through production specification.

The products in this catalog are organized by the AirBorn part number assigned to them.

Each connector part number identifies five elements:

- AirBorn Series
- Body
- Size (number of contacts)
- Contact Type
- Hardware Type

Each catalog page shows the choices available for each of these elements. By selecting one option from any category on the page, you can build a set of connectors to meet your requirements.

If you do not find a particular connector size or option, please contact AirBorn for further assistance. AirBorn can manufacture special configurations for your exact specifications.

When everything matters, go AirBorn.

www.AirBorn.com

AirBorn International LTD

Mercury House, Station Road Edenbridge. Kent. TN8 6HL United Kingdom

Phone: +44 (0)1732 864930 E-mail: cs@airbornint.com

AirBorn

4321 AirBorn Drive Addison, TX 75001-0519 United States

Phone: (972) 931-3200 Fax: (972) 931-9305 E-mail: info@airborn.com

AirBorn

3500 AirBorn Circle Georgetown, TX 78626 United States

Phone: (512) 863-5585 Fax: (512) 863-8259 E-mail: info@airborn.com

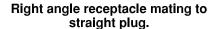


"R" SERIES - .075" MIL-C-55302



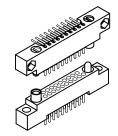
<u>Daughterboard to</u> Motherboard or Chassis

Right angle plug mating to straight receptacle.

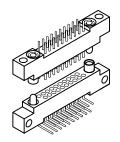


Right angle plug mating to straight receptacle.

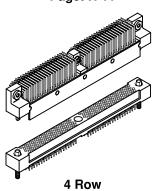
Right angle receptacle mating to straight plug.



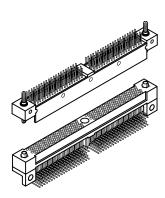
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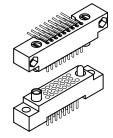
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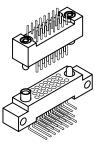
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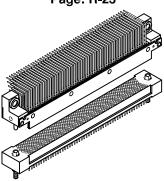
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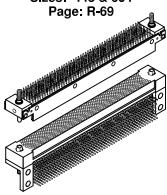
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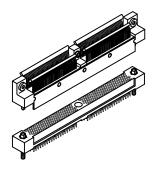
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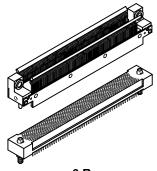
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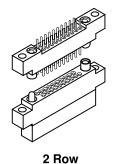


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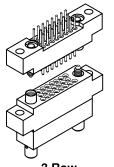


<u>Daughterboard to</u> <u>Motherboard or Chassis</u>

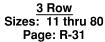
Surface mount plug mating to straight receptacle.



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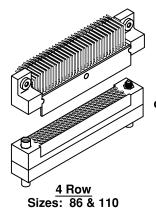
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Cable or Board mating to Crimp Removable

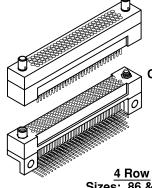
Straight plug mating to crimp removable receptacle.

Crimp removable plug mating to straight receptacle



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Straight plug mating to crimp removable receptacle.



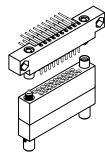
Crimp removable plug mating to right angle receptacle.

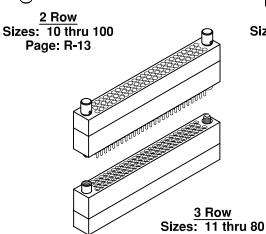
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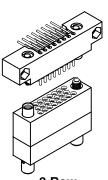


Right angle plug mating to crimp removable receptacle.

Crimp removable plug mating to crimp removable receptacle.



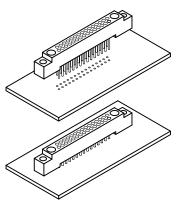




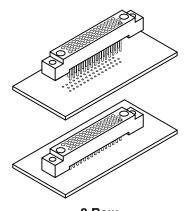
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PC Board Stackable

Plated thru hole stackable or connector saver.

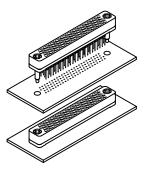


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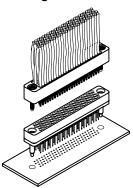


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Compliant pin (press fit) stackable.

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Specifications Materials and Finishes *

Pin Contacts: BeCu, per ASTM-B196, ASTM B 197/B 197M-, or brass alloy per ASTM B 16/B 16M

or ASTM-B134

Socket Contacts: BeCu per ASTM-B194 and/or ASTM-B196, ASTM B 197/B 197M-, or brass per

ASTM B 16/B 16M or ASTM-B134

Contact Finish: Gold plate per ASTM B 488-, SAE AMS 2422, or localized finish per MIL-C-55302

Solder: Sn/Pb Alloy - 63% Tin, 37% Lead composition (☑).

SAC305 - 96.5% Tin, 3.0% Silver, 0.5% Copper composition.

Molded Insulators: Glass filled polyphenylene sulfide per MIL-M-24519, Type GST-40F

Jackscrews: Stainless steel per ASTM A 582/A582M-, Passivated per ASTM-A967, SAE AMS-QQ-P-35

Jacksockets: Stainless steel per ASTM A 582/A582M-, Passivated per ASTM-A967, SAE AMS-QQ-P-35

Jackscrew Knobs: Stainless steel per ASTM A 582/A582M-, Passivated per ASTM-A967, SAE AMS-QQ-P-35

Guide Pins, Guide Sockets: Stainless steel per ASTM A 582/A582M-, Passivated per ASTM-A967, SAE AMS-QQ-P-35

Guide Sockets, Polarized "D" type:

BeCu per ASTM-B196, ASTM B 197/B 197M-, Nickel plated per SAE AMS-QQ-N-290

Connector Markings: Contact numbers are stamped on the side of the connector. Numbers are stamped

on the low-numbered side only on 2-row and 3-row right angle connectors

Tolerances: Unless otherwise specified: Fractions = $\pm 1/64$ "

Decimals = ±.010" Angles = ±5°

Note: AirBorn can manufacture special configurations for your exact specifications.

* = Reference the above listed specifications or an equivalent industry standard when applicable



Performance Reference MIL-C-55302

Contact Rating: 3-amperes (2 amperes for .016 diameter)

Solderability: Terminals (except wire wrap[®], crimp and stackables) tested in accordance with

MIL-STD-202, Method 208

Wire Size: Stranded #26 AWG

Operating Temperature: -65° to +125° C or -85° to +257° F

Category:	Requirements:	Test Method Per: SAE AS 13441
Test Voltage:	750 V, RMS, 60 Hz @ sea level 250 V, RMS, 60 Hz @ 70,000 feet	#3001
Insulation Resistance:	5,000 megohms minimum @ 500 VDC	#3003
Durability:	500 connector mating cycles	
Vibration:	Mated connectors, Test condition III	#2005
Salt Spray:	Mated connectors, Test condition B	#1001
Shock:	Mated connectors, Test condition G	#2004
Humidity:	Test Type II, except steps 7A and 7B not required	#1002
Temperature Cycling:	Mated connectors, Test condition A	#1003

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Contact Resistance: .015 ohms max (interface measurement)

@ 3 amperes

Connector Mating Force: 2.50 oz. x number of contacts average

Outgassing: The entire connector assembly shall have maximum total mass loss (TML) of 1.0 percent of the original specimen mass and shall have a maximum volatile

condensable material (VCM) content of 0.1 percent of the original specimen mass.

#3004

Sizes 50 and larger: Upon engagement, center area of mating faces may remain open .010" to .025"

due to slight flexing of molding. Vibration or shock should provide complete

closure.

Guides and Jacks: If location of pin or socket contacts is reversed, location of male and female

guides or jacks is also reversed; except when using "D" shaped polarized guides.

When polarized positions are changed, apply Loctite 8242-12 or equivalent to

threads.



Part Number Description

Each part number consists of at least five elements: series, body description, size (number of contacts), type of contacts, and type of hardware. A sixth element is added whenever special modifications or options are available.

Each catalog page shows the choices available for each of these elements. By selecting one option from each category on the page, you can build a set of connectors to meet your requirements.

Each element is identified by a combination of letters and/or numbers in fixed field lengths, and separated by a hyphen (-). Each space must be filled in to complete the number. When the size, for example, is less than 100, indicate as 010, 080, etc.

Series:

This will always be a two letter designator, and will identify the connector series. All .075" connectors begin with the letter "R". The second letter designates the various styles of .075" connectors.

Body:

Each digit of the Body Designator will normally identify (1) the number of rows, (2) the style of body, and (3) the body materials. The three digit number to identify the body consists of one digit from each group.

Size:

The size is determined by the number of contacts in the connector, and is an integral part of the part number. Order only sizes shown on the catalog page unless otherwise noted.

Contacts:

Each page also identifies all contact options for a given connector. The first two digits designate the type of contacts and terminations; the third digit designates the plating option.

Hardware:

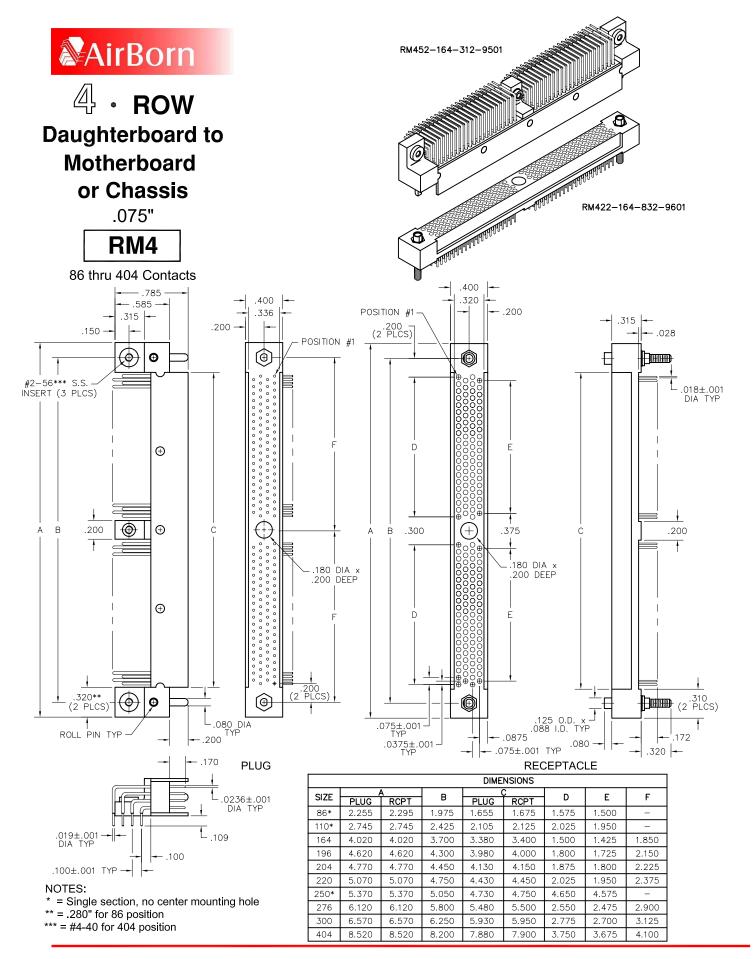
The hardware designator is four digits; two for style of hardware and two for polarization or wiring instruction. Follow the choices for each connector.

Special Instructions (Options):

Special instructions are referenced by a three digit number added to the end of the part number. The last three digits are included only when applicable. AirBorn, Inc. will provide individual code numbers as needed.

Note:

Each page is as comprehensive as possible. However, if you do not find a particular connector size or option, please contact the factory for further assistance.





PLUG: RM452-164-312-9501 **RECEPTACLE:** RM422-164-832-9601

xxxxx-xxx-xxxx

PLUG RECEPTACLE

	SEF	RIES							
RM	RM .075" Screw Machine PC Connector RM .075" Screw Machine PC Connector								
	BODY								
4	4-Row	4	4-Row						
5	BODY STYLE: Plug, right angle, with mounting ears	2	BODY STYLE: Receptacle, straight, without mounting ears						
2	BODY MATERIAL: Polyphenylene sulfide (PPS)	2	BODY MATERIAL: Polyphenylene sulfide (PPS)						
	SIZ	ZE							
	086, 110, 164, 196, 204, 220, 250, 276, 300, 404		086, 110, 164, 196, 204, 220, 250, 276, 300, 404						
	CONT	ACT	S						
31 32 33 34	TYPE CONTACTS/TERMINATIONS: Pin, right angle, dip solder, .109" x .019" dia Pin, right angle, dip solder, .140" x .019" dia Pin, right angle, dip solder, .172" x .019" dia Pin, right angle, dip solder, .250" x .019" dia	75 76 77 78 79 81 82 83 87 88 89	TYPE CONTACTS/TERMINATIONS: Socket, straight, dip solder, .250" x .018" dia Socket, straight, solder cup Socket, straight, flex, .093" x .017" dia Socket, straight, wire wrap®, .500" x .018" sq Socket, straight, wire wrap®, .375" x .018" sq Socket, straight, dip solder, .109" x .018" dia Socket, straight, dip solder, .140" x .018" dia Socket, straight, dip solder, .172" x .018" dia Socket, straight, dip solder, .172" x .018" dia Socket, straight, press-fit, .188" (Board: .093"125" thk) Socket, straight, press-fit, .308" (Board: .156"200" thk) Socket, straight, press-fit, .388" (Board: .250"+ thk)						
1 2 3	PLATING OPTIONS: Gold plated termination Pre-tinned termination, SnPb alloy ⊠ Pre-tinned termination, SAC305 alloy	1 2 3	PLATING OPTIONS: Gold plated termination Pre-tinned termination, SnPb alloy (dip solder options only) Pre-tinned termination, SAC305 alloy (dip solder options or						

HARDWARE

STYLE OF HARDWARE:	STYLE OF HARDWARE:
0256 None	0256 None
83 Fixed jackset, reversed, installed	82 Hex turning jackset, reversed, installed, .200 knob
90 Guide pins, full round, installed	83 Fixed jackset, reversed, installed, #2-56 x .247" thd ext
93 Fixed jackset, installed	84 Fixed jackset, reversed, installed, #2-56 x .320" thd ext
95 Guide pins, polarized, unassembled	91 Guide sockets, full round, installed, #2-56 x .247" thd ext
9501 - 9536 Guide pins, polarized, installed	92 Hex turning jackset, installed, .200 knob
99 Guide pins, universal, installed	93 Fixed jackset, installed, #2-56 x .247" thd ext
•	94 Fixed jackset, installed, #2-56 x .320" thd ext
	96 Guide sockets, polarized, unassembled, #2-56 x .320" thd ext
	9601 - 9636 Guide sockets, polarized, installed, #2-56 x .320" thd ext
	97 Guide sockets, polarized, unassembled, #2-56 x .247" thd ext
	9701 - 9736 Guide sockets, polarized, installed, #2-56 x .247" thd ext
	98 Guide sockets, universal, installed, #2-56 x .247" thd ext
POLARIZATION:	ı POLARIZATION
00 None	00 None
01 thru 36 are special identifiers, see page R-57	01 thru 36 are special identifiers, see page R-57



Right Angle PTH Plug Straight PTH Plug

.075"

RM4

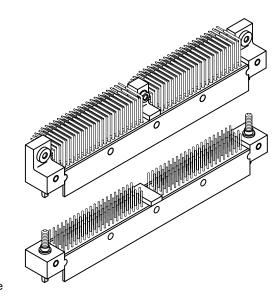
86 thru 404 Contacts Recommended Board Layout

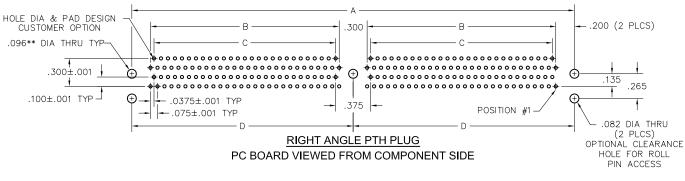
DIMENSIONS						
SIZE	Α	В	С	D		
86*	1.975	1.575	1.500	1		
110*	2.425	2.025	1.950	-		
164	3.700	1.500	1.425	1.850		
196	4.300	1.800	1.725	2.150		
204	4.450	1.875	1.800	2.225		
220	4.750	2.025	1.950	2.375		
250*	5.050	4.650	4.575	-		
276	5.800	2.550	2.475	2.900		
300	6.250	2.775	2.700	3.125		
404	8.200	3.750	3.675	4.100		

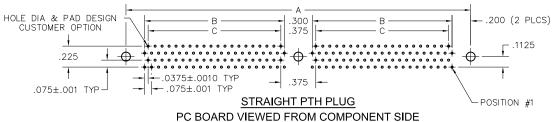
NOTES:

* = Single section, no center mounting hole

** = .125 dia thru holes, size 404







SIZE		CONTACT I	D		SIZE		CONTACT I	D	
86*		(86) (85) (84) (65) (64) (63) (43) (42) (41) (22) (21) (20)	68 67 66 (46 (45) (44) (25) (24) (23) (3) (2) (1)		220	220/219/218 (166)(65)(64) (110)(09)(08) (56)(55)(54)	(196)(195)(194) (141)(140)(139) (86) (85) (84) (31) (30) (29)	(93)(92)(191) (138)(37)(36) (83)(82)(81) (28)(27)(26)	(13)(12)(11) (59)(58)(57) (3)(2)(1)
110*		(10)(09)(08) (83)(82)(81) (55)(54)(53) (28)(27)(26)	86 85 84 (58 67) 56 (31) 30 (29) (3) 2) 1		250*		(25)(24)(248) (188)(87)(186) (25)(24)(23) (63)(62)(61)	(191(190)(189) (128(127)(126) (66)(65)(64) (3)(2)(1)	
164	(64)(63)(62) (124)(23)(22) (82) (81) (80) (42) (41) (40)	(147)(146)(145) (106)(105)(104) (65)(64)(63) (24)(23)(22)	(144)(143)(142) (103)(102)(101) (62)(61)(60) (21)(20)(19)	(127)(126)(125) (85)(84)(83) (45)(44)(43) (3)(2)(1)	276	276275274 208207206 (38(37)(36) 70(69(68)	245(244)243 (76)(75)(74) (107)(106)(105) (38)(37)(36)	(242(241)(240) (173)(172)(171) (104)(103)(102) (35)(34)(33)	211/210/209 (141/(140)(39) (73/72/71) (3/2/11)
196	(96)(95)(94) (48)(47)(46) (98)(97)(96) (50)(49)(48)	(75)(74)(73) (126)(25)(24) (77) 76 (75) (28) (27) (26)	(72(17)(70) (23)(22)(21) (74)(73)(72) (25)(24)(23)	(5)(15)(149) (10)(00)(99) (53)(52)(51) (3)(2)(1)	300	(50)(29)(29) (26)(25)(22) (150)(149)(148) (76) (75) (74)	266/265/264 (191/190/189) (116/115/114) (41/40/39)	263(262(26)) (188(187(186)) (13)(12)(111) (38) (37) (36)	(229/228/227) (153/152/151) (79/78/77) (3/2)(1)
204	204/203/202 (54/153/152) (02/101/00) (52/51/50	(82(181)(80) (131)(30)(29) (80 (79) (78) (29) (28) (27)	(79)(78)(77) (28)(27)(26) (77)(76)(75) (26)(25)(24)	(57)(56)(55) (05)(04)(03) (55)(54)(53) (3)(2)(1)	404	403(401)(399) 404(402)(400) (201)(199)(197) 202(200)(198)	309(507(505) 609(506(504) (107(105)(103) (106(104)(102)	(502(500)(298) (503(301)(299) (100(98)(96) (101(99)(97)	208/206/204 207/205/203 6 4 2 5 3 1



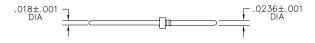
Contacts 4 Row

Pins and Sockets

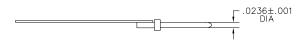
PINS



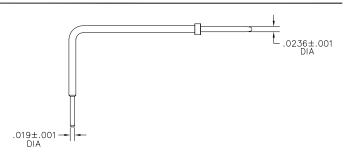
Pin, straight, solder cup



- 51 Pin, straight, dip solder, .109"
- Pin, straight, dip solder, 140" 52
- Pin, straight, dip solder, .172"



- Pin, SMT, .014" x .007", scored for organizer removal (see R-56)
- Pin, SMT, .014" x .007", unscored



- 31 Pin, right angle, dip solder, .109" x .019" dia
- 32 Pin, right angle, dip solder, 140" x .019" dia
- Pin, right angle, dip solder, .172" x .019" dia

SOCKETS



- 75 Socket, straight, dip solder, .250"
- 81 Socket, straight, dip solder, 109"
- 82 Socket, straight, dip solder, .140"
- Socket, straight, dip solder, 172"



Socket, straight, solder cup



Socket, straight, flex circuit, .093"



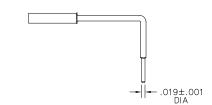
- Socket, straight, wire-wrap $^{\circledR}$, .500" Socket, straight, wire-wrap $^{\circledR}$, .375" 78
- 79



- Socket, straight, press-fit, .188" (Board: .093"-.125")
- Socket, straight, press-fit, 308" (Board: 156"-200") 88
- Socket, straight, press-fit, .388" (Board: .250 or <)



- Socket, straight, crimp removable (20-22 awg)
- 58 Socket, straight, crimp removable (24-26 awg)
- Socket, straight, crimp removable (28-30 awg)



- Socket, right angle, dip solder, .109"
- 85 Socket, right angle, dip solder, .140"
- 86 Socket, right angle, dip solder, .172"