



Millipacs[®] 2mm Hardmetric Product Presentation

Sep 2014



Millipacs® Overview

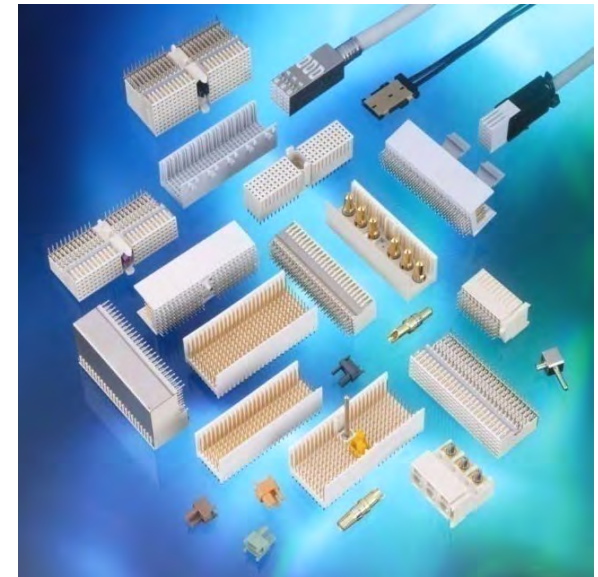


- Millipacs® is a 2.00 mm modular board to board or cable to board Interconnection system in hardmetric configuration designed in accordance with IEC 917 and IEC 61076-4- 101.

- 2mm hardmetric connector is one of the industry's most popular backplane connector system. It's cost effectiveness, user flexibility and broad range offers attractive propositions for all market segments
 - Lowest price point

- Standard range
 - Vertical & Right Angle Headers
 - Vertical & Right Angle Receptacles
 - Accessories
 - Cable Connectors

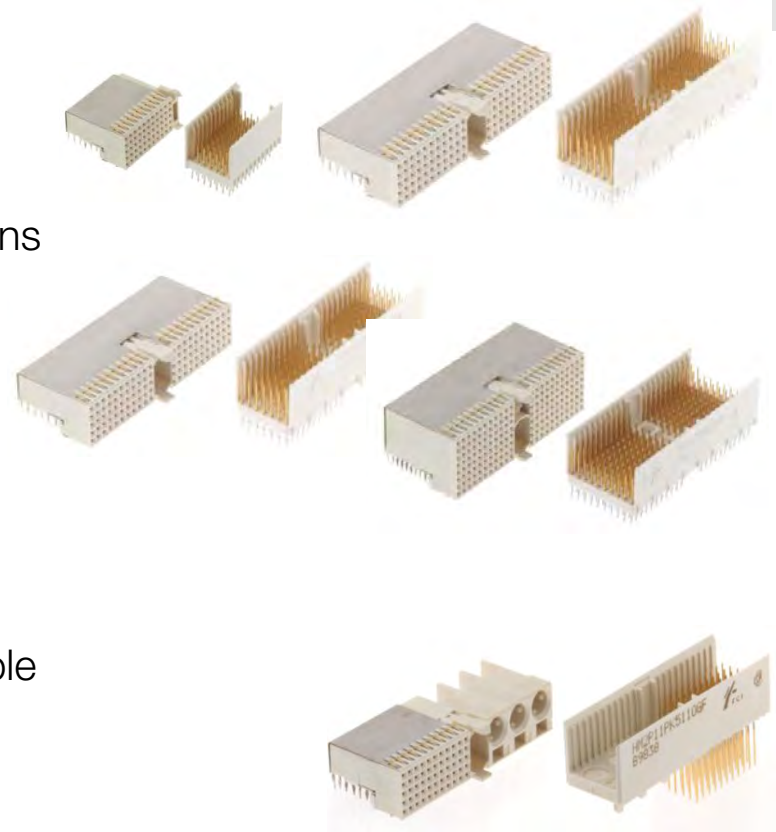
- Special versions
 - Higher speed versions
 - Increased stack heights for Mezzanine applications
 - Additional columns, Offset polarization



Millipacs® Range



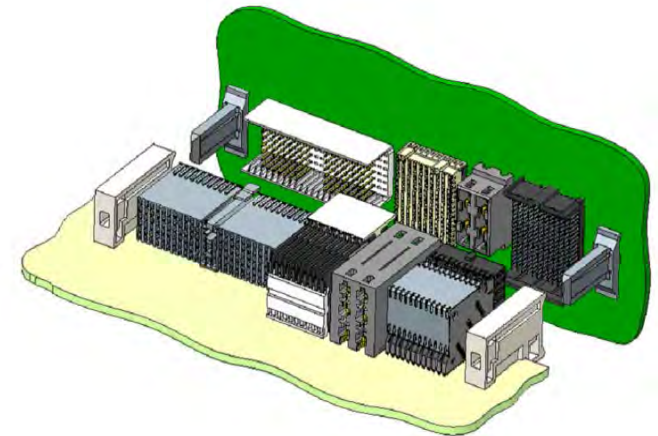
- **Hard Metric**
 - 2.0 mm pitch, SU per 25 mm
- **Scalable**
 - Size - modular without loss of contact positions
 - Density - 5 + 2 or 8 + 2 row system
- **Board to Board, Cable I/O**
- **Header**
 - 5 & 8 row vertical and 5 row right angle
 - Broadest contact length configurations
- **Receptacle**
 - 5 & 8 row right angle and 5 row vertical & cable
 - Selective loading of contacts option
- **Accessories**
 - Guiding, Polarising & Hybrid
- **Performance**
 - IEC, Telecordia, Compact PCI, UL/ CSA
 - 3G speed and transition to higher speed with suitable pinning assignments



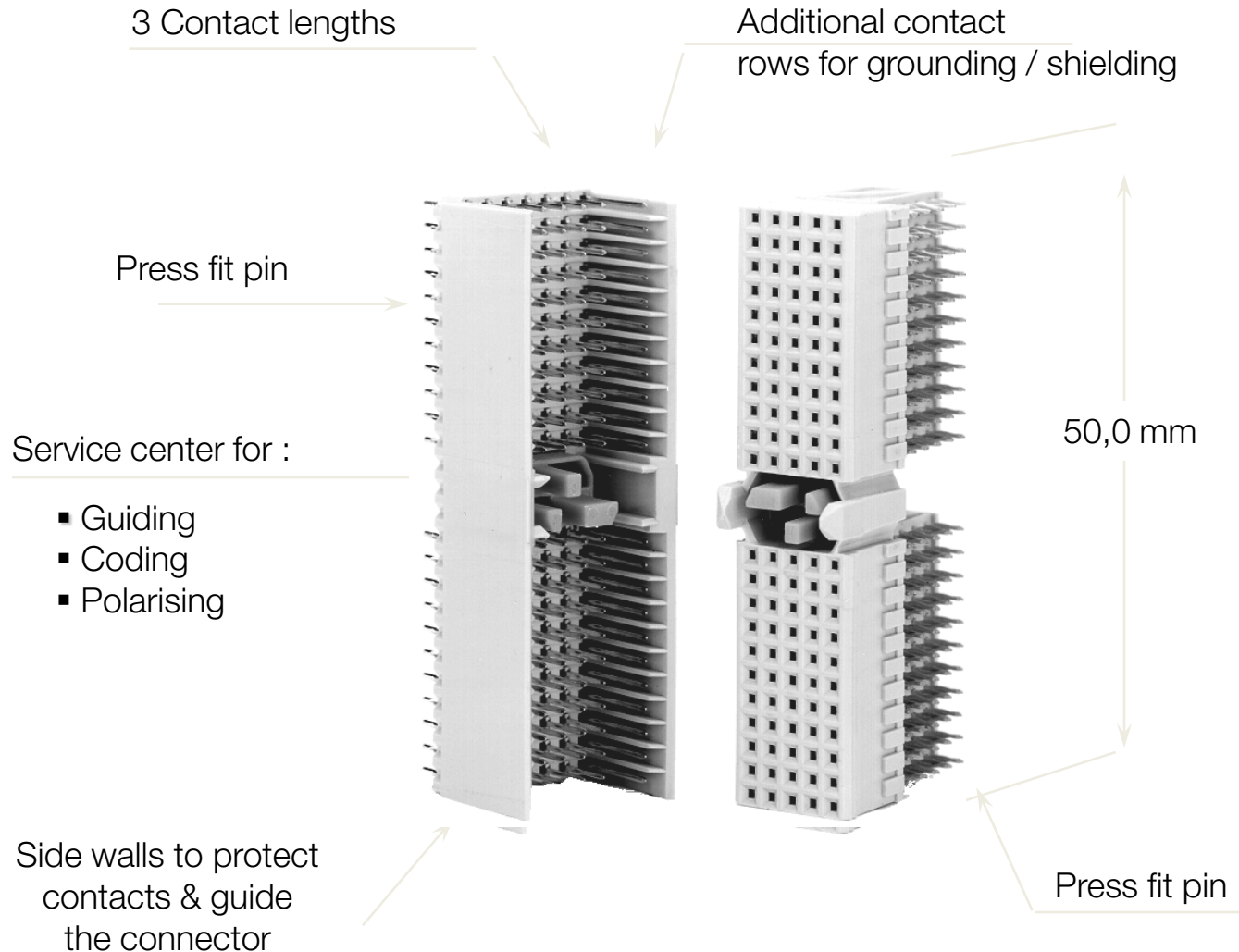
Millipacs® Benefits



- Broad Product Range
- Ability to offer customized versions & product extensions
- Competitive service levels
- Transition to higher speed upto 10G
- Complementary Higher speed offering from portfolio
 - Used side by side with higher speed connectors & accessories following hardmetric configuration



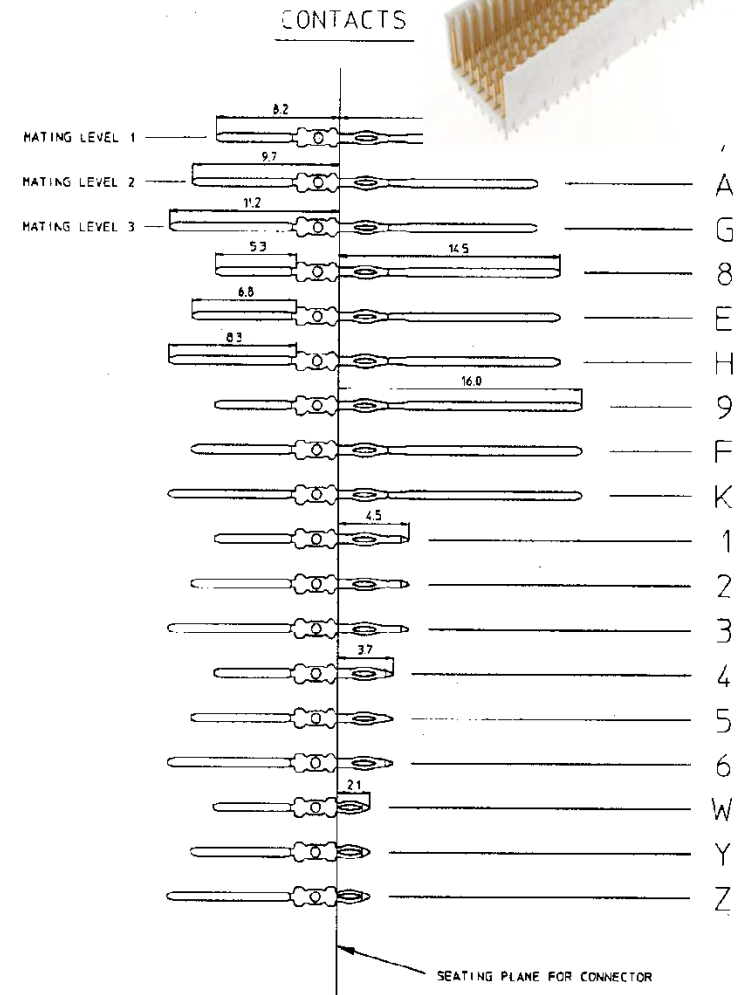
2.0mm Hard Metric Interconnection System



Vertical Header

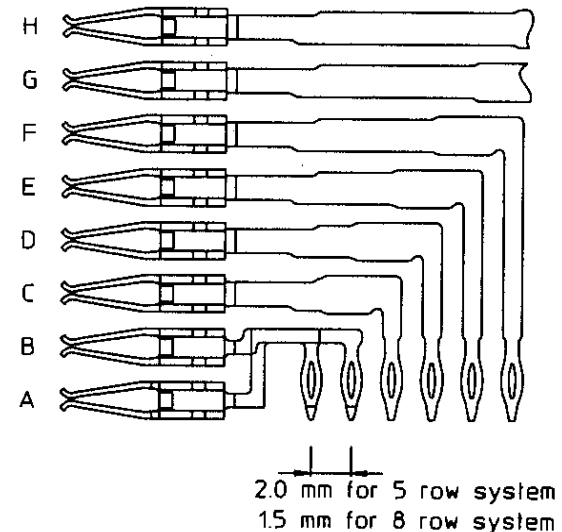
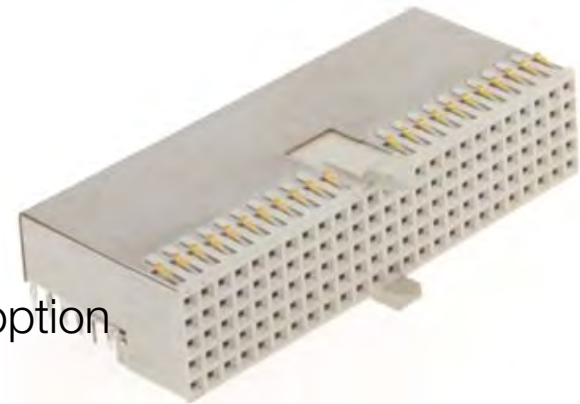


- Range
 - All popular versions of 5 & 8 row
- Housing Body
 - Any length contact in any position, no limitations in contact arrangements
 - 5 (+2) row and 8 (+2) row concept
 - Wide body concept (15.4 mm) width
- Contacts
 - Pin section: 0.4 x 0.5 mm
 - Industry's broadest range from 3 mating contact levels & terminations short & RPU
 - PCB thickness range : 2.1 to 4.5mm
 - "Eye of the needle" press-fit termination, 0.6 mm PT holes
 - PIP version for all popular types



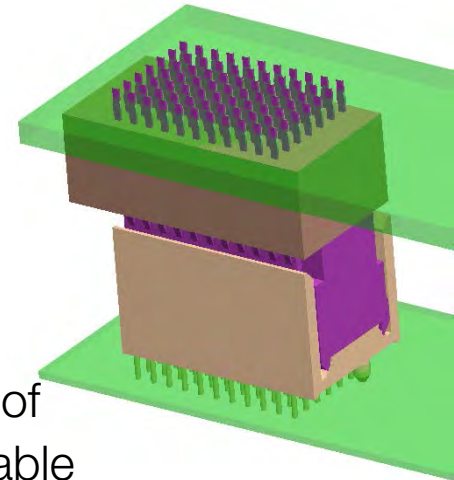
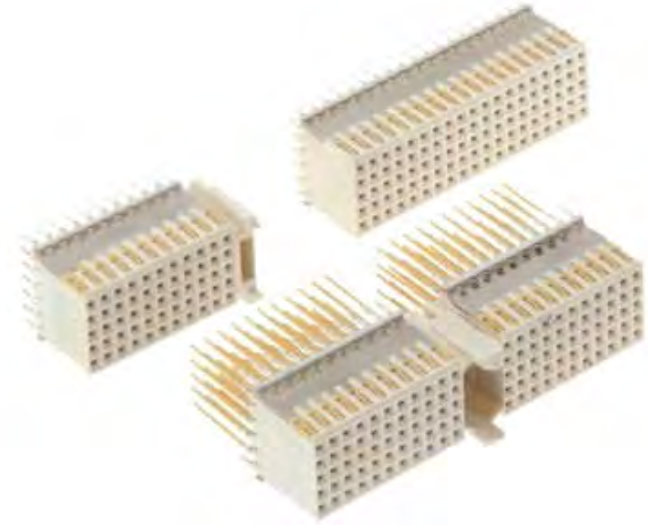
Right Angle Receptacle

- Range
 - All popular 5 & 8 row versions
- Body
 - Single piece concept
 - Stitched contact assembly process with option of selective loading
 - With (or without) fixing pegs
 - 5 (+2) row and 8 (+2) row concept
- Contacts
 - 2-beam tulip contact
 - Right angle stamped:
 - No extra bending operation
 - Accurate true positioning
 - “Eye of the needle” press-fit
 - 0.6 mm PT holes
 - Open gap type contact for low mating for



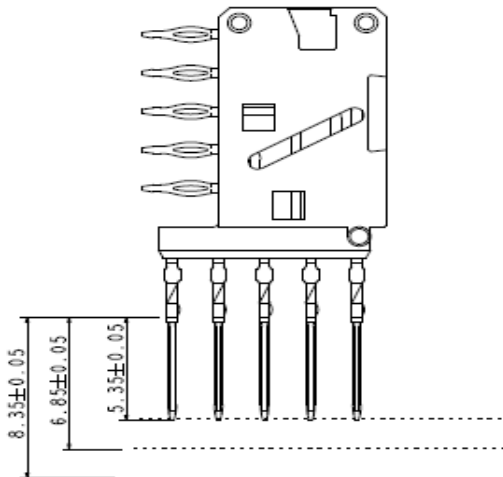
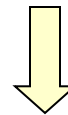
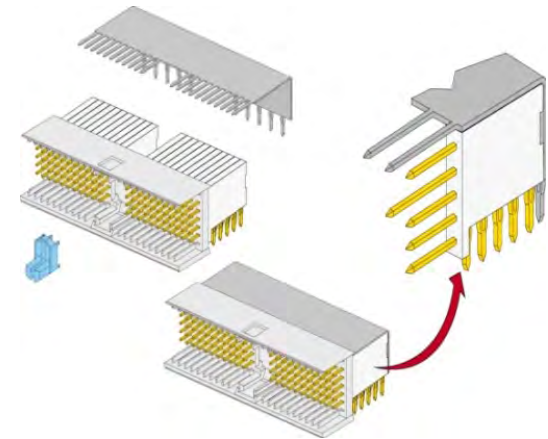
Vertical Receptacle

- Range
 - 5 row Receptacle
- Housing body:
 - 1 - piece concept, fixing pegs option
 - Selective loading option
- Contacts:
 - 2-beam tulip contact & open gap type forces
 - “Eye of the needle” press-fit
 - Terminations : Short tail 3.7 mm & Rear plug up 13.0 / 14.5 / 16.0 mm
 - 0.6 mm PT holes
- Mating Options
 - RA Header, Vertical Header
 - Mezzanine applications- Standard stack height of 15mm & Extended stack height of 25mm available



Right Angle Header

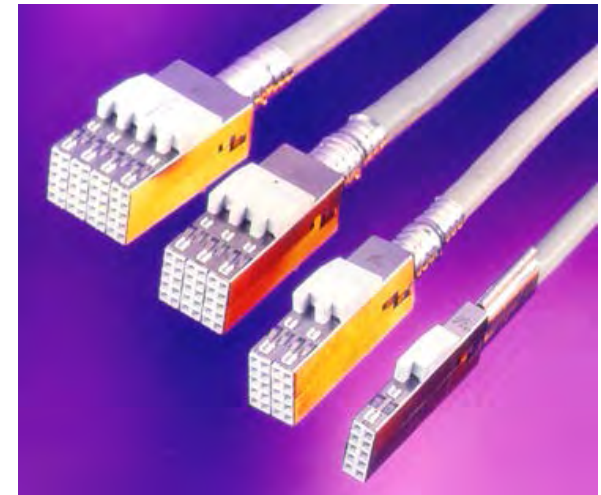
- Broad Range of Standard signal modules
 - A,B,C,B19,B22 and the new versions AB22 and AB25.
 - 55 to 125 signal contacts max. per 50 mm
- Mating options
 - Receptacle - Vertical, Right Angle & Cable
- Contact lengths & Patterns
 - 3 contact mating lengths - Code 4 @ 5.35mm, Code 5 @ 6.85mm & Code 6 @ 8.35 mm
 - Nine patterns of IMLA configurations



0	0	0	0	0	0	0	0	0
4	5	5	5	5	5	5	6	4
4	5	5	6	4	4	5	6	4
4	5	6	5	5	5	6	6	5
4	5	5	5	5	4	5	5	4
4	5	5	5	5	5	6	6	4
0	0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8	9

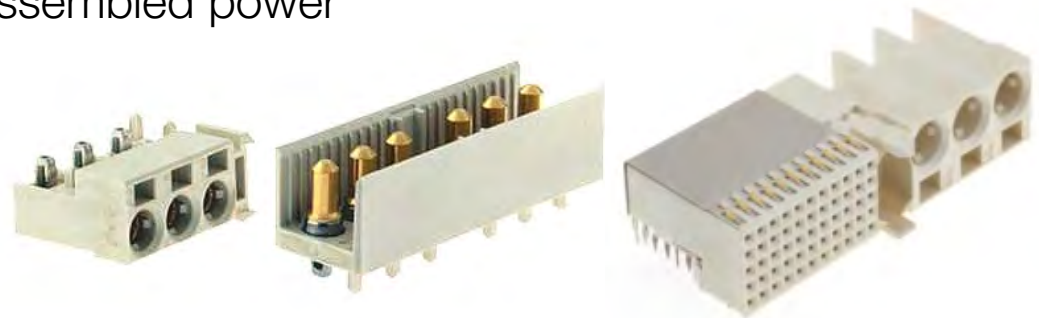
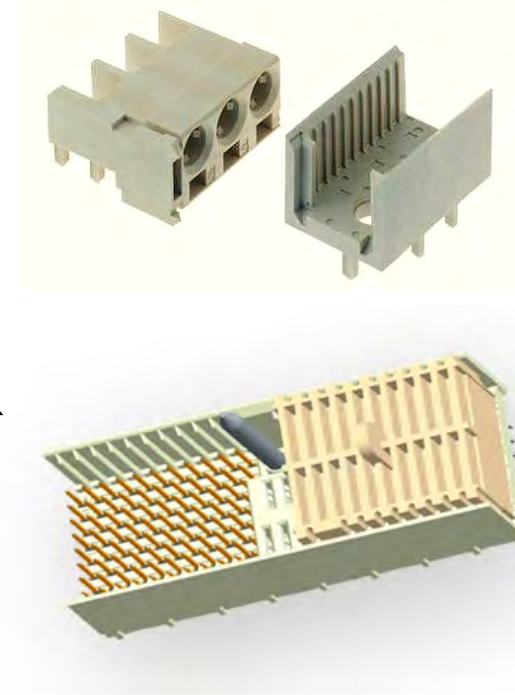
Cable Connector

- 5 + 2 row concept, transversal mounting on pin array
- Types: 2 x 5, 4 x 5, 6 x 5 and 8 x 5 pos.
- 360° shielding version
- Mating at every position
- Stackable at every position
- Locking latches
- Straight cable outlet



Power & Hybrid Versions

- Range
 - Vertical Header
 - RA Receptacle
 - Vertical Receptacle
- Hybrid connector with signal pins, guide pins & power contacts
- Contact configurations
 - Up to 6 power or co-ax contacts per 50 mm
 - Pre-assembled & Post assembled power modules
 - Press fit terminations.

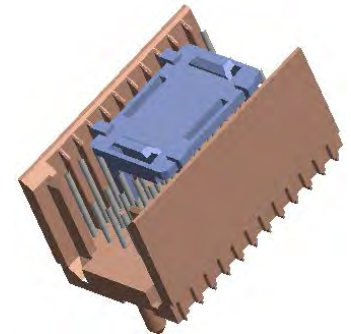
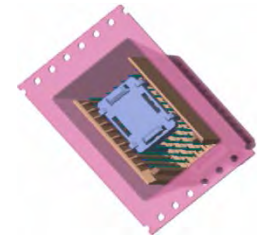
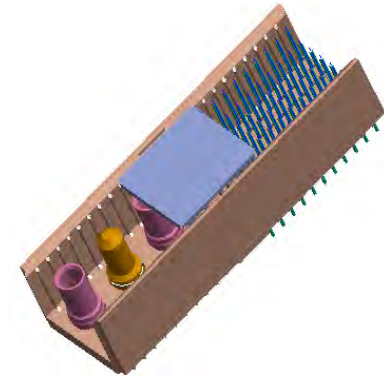


Vertical Header Pin in Paste



- Product range (5 + 2 row)
 - Type A (110 signal contacts)
 - Type C (55 signal contacts)
 - Type M (55 signal + 3 Coax/Power contacts)

- Features
 - Manufactured with a reflow temperature resistant resin
 - Withstands 260°C for 10 sec. for Pin in Paste application
 - Black color housing for easy recognition as a through hole component
 - Pickup cap option available for automatic pickup and place by vacuum nozzle on to the board assembly.
 - Tape and Reel Packaging
 - Locating Peg/Hold down feature to ensure connector remains in position while soldering
 - ROHS Compliant & Meets all requirements of IEC 61076-4-101

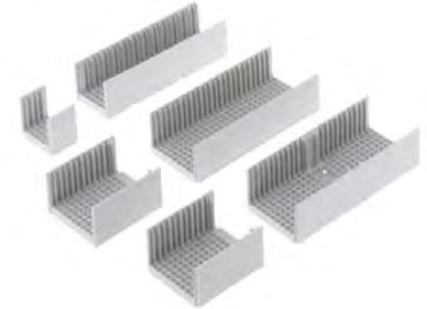


Accessories



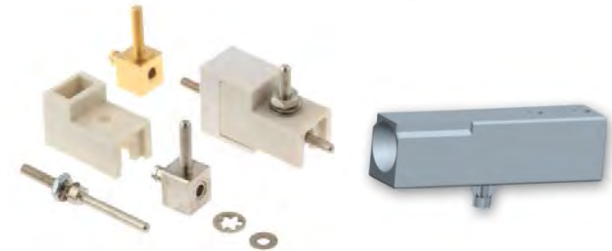
▪ Shrouds

- Range :5(+2) and 8 (+2) row.
- Retention by forced-fit over the long tails of vertical headers/ receptacles for RPU applications
- Optional cable latch lock feature for IO applications



▪ Guiding Systems

- Guiding pins and mating right angle sockets
- Different pin lengths for guiding pins
- Stand alone system
- Pre-mating, Additional guiding



▪ Power Contacts

- Power & Coaxial – pin & socket contacts following DIN standard, suitable for Type L, M, N modules
- Wide variety of contact styles for crimp, dip and handsolder or pressfit connections



▪ Coding Keys

- Polarized in “MP” center to prevent wrong assembly
- Well defined colors for easy identification



Millipacs® connector core PN series



No: of signal rows	Type	Header Series	Pin Orientation	Receptacle Series	Pin orientation	Max. No: of signal pins	Mounting style
5	A	HM2P07P	Vertical	HM2R01P /HM2R10P	Right Angle	110	Press-fit
		HM2J07PE	Right Angle	HM2S01P /HM2S10P	Vertical	110	Press-fit
	B	HM2P08P	Vertical	HM2R02P	Right Angle	125	Press-fit
		HM2J08PE	Right Angle	HM2S02P	Vertical	125	Press-fit
	B22	HM2P70P	Vertical	HM2R70P	Right Angle	110	Press-fit
		HM2J70P	Right Angle	HM2S70P	Vertical	110	Press-fit
	B19	HM2P71P	Vertical	HM2R71P	Right Angle	95	Press-fit
		HM2J71P	Right Angle	HM2S71P	Vertical	95	Press-fit
	AB	HM2P65P	Vertical	HM2R65P	Right Angle	125	Press-fit
		HM2J65PE	Right Angle	HM2R65P	Right Angle	125	Press-fit
	AB22	HM2P66P	Vertical	HM2R66P	Right Angle	110	Press-fit
	AB19	HM2P67P	Vertical	HM2R67P	Right Angle	95	Press-fit
	C	HM2P09P	Vertical	HM2R03P /HM2R30P	Right Angle	55	Press-fit
		HM2J09P	Right Angle	HM2S30P	Vertical	55	Press-fit
CR	HM2P80P	Vertical	HM2R20P	Right Angle	55	Press-fit	
L	HM2A30P	Vertical	HM2E30P	Right Angle	6 Spl.	Press-fit	
M	HM2P11P	Vertical	HM2R05P	Right Angle	3 Spl.+ 55	Press-fit	
N	HM2A32P	Vertical	HM2E32P	Right Angle	3 Spl.	Press-fit	
8	D	HM2P87P	Vertical	HM2R87P /HM2R81P	Right Angle	176	Press-fit
	DE	HM2P95P	Vertical	HM2R95P	Right Angle	200	Press-fit
	E	HM2P88P	Vertical	HM2R88P	Right Angle	200	Press-fit
	F	HM2P89P	Vertical	HM2R89P /HM2R83P	Right Angle	88	Press-fit
5	A	HM2P40S	Vertical	HM2S10P / HM2R10P	Vert./ Rt.Angle	110	PIP
	C	HM2P09S	Vertical	HM2S30P /HM2R30P	Vert./ Rt.Angle	55	PIP
	M	HM2P11S	Vertical	HM2S05P/ R05P	Vert./ Rt.Angle	3 Spl.+ 55	PIP

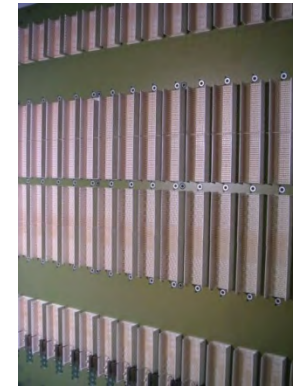
Cable Connectors & Accessories Core PN Series

Series	Description	Features	Application
HM2C---	Cable Connector	Non shielded/Shielded	Input/Output
HM2DK---	Coding Devices	Plug and Receptacle with pre defined RAL colours	Prevent incorrect insertion
RM.....(Pin) / RC.....(Sockets)	Power Contacts	High Precision Pin and Socket contacts	Hybrid, Power, Coax for increased durability
HM2H---	Millipacs Shrouds	5 row and 8 row available	Rear-Plug-up
HM2LS---	Bottom Shield	Pre-assembled shields for Right Angle Receptacles	Shielding
HM2G....	Guiding Pins	Stackable, Different Pin lengths	Guiding & Premating

Market

- Communication /Data

- IP, Internet backbone driving high bandwidth requirements
- LAN / WAN interfaces & data over public networks
 - Core Switches, Routers, Hubs, Base Stations,
 - Wireless Base Stations ... 3G/LTE
- Servers, Storage units ...
- Transmission, Access Systems ...
- Routers
- Plug In Unit
- High Density and Power
- Embedded Computer
- CPCI Rack



- I & I

- Embedded computers, Compact PCI racks.
- Test - equipments, e.g. IC test units.
- Medical, e.g. Ultrasonic equipments.
- Avionics, e.g. video units; control units.





THANK YOU

