≣FCi Basics

Amphenol

Millipacs[®] 2mm Hard Metrics Series – Right Angle Header Connectors

FLEXIBLE AND HIGH PERFORMING HEADER MODULES

Amphenols FCI Basics Millipacs® Hard Metric Right Angle Header Modules are available in all popular versions and is designed for applications requiring co-planar boardto-board connection within the normal Hard Metric environment.

- Variety of pin layout configurations are available
- Suitable for Extender or Test Card designs
- Housings are with cable latch lock feature
- Custom contact loading patterns are available



FEATURES

- Millipacs® right angle connectors are offered in Types A, B, C, B19, B22, AB22 and AB25
- Housings are with cable latch lock feature
- Custom contact loading patterns are available
- Suitable for Extender or Test Card designs

BENEFITS

- Wide variety of options
- Allows mating to receptacle cable connectors
- Suits different system requirements
- Suits different designs

TECHNICAL INFORMATION

PERFORMANCE CHARACTERISTICS

- Operating Temperature Range: -55°C to +125°C
- Operating current:
- 1.5A at 20°C
- 1.0A at 70°C
- Contact Resistance: $20m\Omega$ max.
- Insulation Resistance: $10^4 M\Omega$ min.
- Mating Force: 0.75N max. per contact pair

IMLA PATTERNS/COMBINATIONS

OVERVIEW

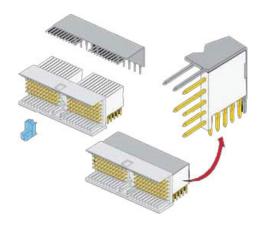
Right angle connectors are based on IMLA based contact assembly process. IMLAs are assembled vertically to the housing as shown in the picture.

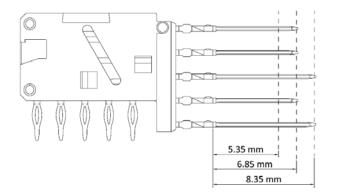
Terminal length of the IMLA is 3.7mm and with eye of needle press-fit.

Pin section is 0.4 * 0.5mm.

IMLA s are available in three different contact mating lengths

- Code no. 4 5.35mm
- Code no. 5 6.85mm
- Code no. 6 8.35mm





| 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 | |

Nine different combinations are supported with these 3 contact mating lengths.

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MATING PRODUCTS

| No. of | Header | | | Mating Receptacle/Cable | Connector |
|----------------|-----------|--------------|-----------------|-------------------------|------------------------|
| Signal Rows | Туре | Part Numbers | Pin Orientation | Part Numbers | Pin Orientation |
| | Turne A | | Dight angle | HM2R01P/HM2R10P | Right Angle Receptacle |
| | Туре А | HM2J07PE | Right angle | HM2S01P /HM2S10P | Vertical Receptacle |
| | Turne D | | Dight angle | HM2R02P | Right Angle Receptacle |
| | Туре В | HM2J08PE | Right angle | HM2S02P | Vertical Receptacle |
| | Turne D22 | | Dight angle | HM2R70P | Right Angle Receptacle |
| | Туре В22 | HM2J70PE | Right angle | HM2S70P | Vertical Receptacle |
| 5 | Turne D10 | | Disktensle | HM2R71P | Right Angle Receptacle |
| | Туре В19 | HM2J71PE | Right angle | HM2S71P | Vertical Receptacle |
| | Туре АВ22 | HM2J66PE | Right angle | HM2R66P | Right Angle Receptacle |
| | | | D'akt oval e | HM2R67P | Right Angle Receptacle |
| | Type AB25 | HM2J65PE | Right angle | HM2S30P | Right Angle Receptacle |
| | Turne C | | Dight angle | HM2R03P /HM2R30P | Right Angle Receptacle |
| | Туре С | HM2J09PE | Right angle | HM2S30P | Vertical Receptacle |

Find part number details using the search box on <u>www.amphenol-cs.com</u>

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TYPE A HEADER WITH 110 SIGNALPINS

OVERVIEW

Millipacs® Type A right angle header connector provides 110 signal contacts in a 5 row configuration with press-fit termination.

Type A connectors has integrated multi purpose centre for polarization and coding. Connectors are with cable latch lock feature and with optional top shielding.

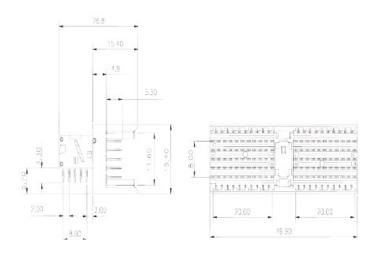


LOADING PATTERNS SUPPORTED

Standard Loading pattern HM2J07PE5110N9LF

| | | _ | | | | | | | _ | | | | _ | | | | _ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|----|------------------------|----|-------------|----|----|----|----|----|----|----|----|----|----|----|
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Ν | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ε | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | $\left \right\rangle$ | | / | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | / | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | X | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | , | / | \ \ | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| A | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | \square | | \setminus | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | / | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | Λ | C | 6 | 7 | 0 | Δ | 10 | 11 | 12 | 12 | 14 | 15 | 16 | 17 | 10 | 10 | 20 | 21 | 22 | 22 | 24 | 25 |
| | | 2 | 3 | 4 |) | 0 | / | 8 | 9 | 10 | | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

Custom loading patterns are available up on request.



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TYPE B HEADER WITH 110 SIGNALPINS

OVERVIEW

Millipacs® Type B right angle header connector provides 125 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with cable latch lock feature and with optional top shielding.



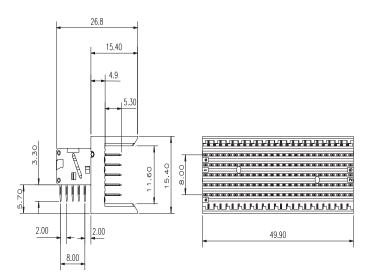
LOADING PATTERNS SUPPORTED

Standard loading pattern HM2J08PE5110N9LF

| | | | | | | | | | _ | | | | _ | | | | _ | | | | | | | | |
|---|---|----|---|---|---|---|---|---|---|----|----|----|-----|----|-----|----|----|----|----|----|----|----|----|----|----|
| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ε | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 2 | Λ | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 1/ | 15 | 16 | 17 | 18 | 10 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | 12 |) | 4 | J | 0 | 1 | 0 | 1 | 10 | | ΠZ | 113 | 14 | L1) | 16 | 1/ | 10 | 19 | 20 | 21 | 22 | ۲٦ | 24 | ۲٦ |

Custom loading patterns are available up on request.

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TYPE C HEADER WITH 55 SIGNAL PINS

OVERVIEW

Millipacs® Type C right angle header connector provides 55 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with cable latch lock feature and with optional top shielding.



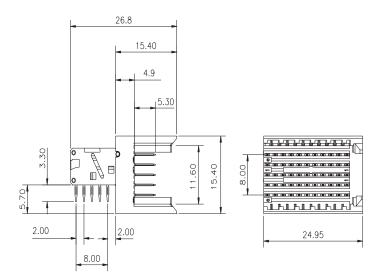
LOADING PATTERNS SUPPORTED

Standard loading pattern HM2J09PE5110N9LF

| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|----|----|
| Е | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

Custom loading patterns are available up on request.

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TYPE B19 HEADER WITH 95 SIGNAL PINS

OVERVIEW

Millipacs® Type B19 right angle header connector provides 95 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with optional top shielding.

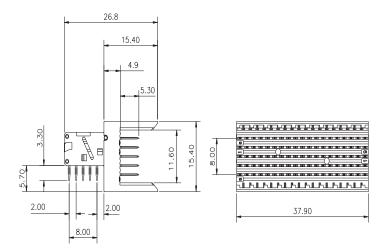
LOADING PATTERNS SUPPORTED

Standard loading pattern HM2J71PE5110N9LF

| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|
| Е | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Custom loading patterns are available up on request.

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TYPE B22 HEADER WITH 110 SIGNAL PINS

OVERVIEW

Millipacs® Type B22 right angle header connector provides 110 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with optional top shielding.

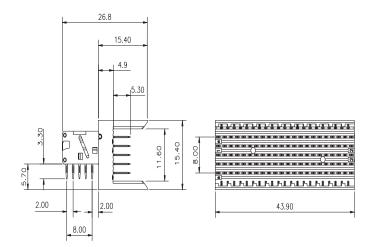
LOADING PATTERNS SUPPORTED

Standard loading pattern HM2J70PE5110N9LF

| F | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Ε | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

Custom loading patterns are available up on request.

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TYPE AB22 HEADER WITH 110 SIGNAL PINS

OVERVIEW

Millipacs[®] Type AB22 right angle header connector provides 110 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with optional top shielding

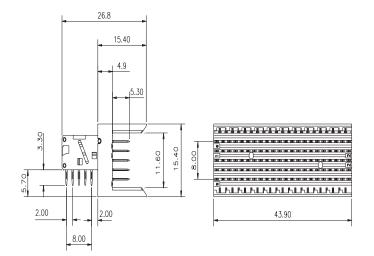
LOADING PATTERNS SUPPORTED

Standard Loading pattern HM2J66PE5110N9LF

| | | _ | | | _ | | _ | | | _ | | | | | _ | | _ | _ | | _ | | |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| F | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 0 | 0 | 0 | 6 | 6 | 6 | б | 6 | 6 | б | 6 | 6 | 6 |
| Ε | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

Custom loading patterns are available up on request.

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TYPE AB25 HEADER WITH 125 SIGNAL PINS

OVERVIEW

Millipacs[®] Type AB25 right angle header connector provides 125 signal contacts in a 5 row configuration with press-fit termination.

Connectors are with optional top shielding.

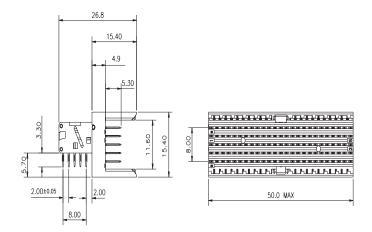
LOADING PATTERNS SUPPORTED

Standard Loading pattern HM2J65PE5110N9LF

| F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Ε | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| D | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| С | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| В | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| А | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ζ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

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