

Millipacs is a standard 2.0mm Interconnect System featuring 5 and 8 contact rows and 2 rows for shielding and grounding. Millipacs is a modular system built up by a number of specific types of modules with different functions and features signal modules with up to 200 signal contacts per 50mm module (in 8 row versions). Both headers and receptacles are equipped with the well known FCI "eye of the needle" press-fit section for stable and reliable connections in the boards.

Features:

- **Housing Material:** High-temperature thermoplastic (UL94V-0) • **Contact Base Material:** Phosphor Bronze • **Operating Temperature:** -55°C ~ 125°C • **Signal Contact Current:** 1.5A @ 20°C, 1.0A @ 70°C • **Contact Resistance:** 20mΩ Maximum
- **Insulation Resistance:** 10,000MΩ Minimum • **Approvals and Certification:** UL and CSA Certified

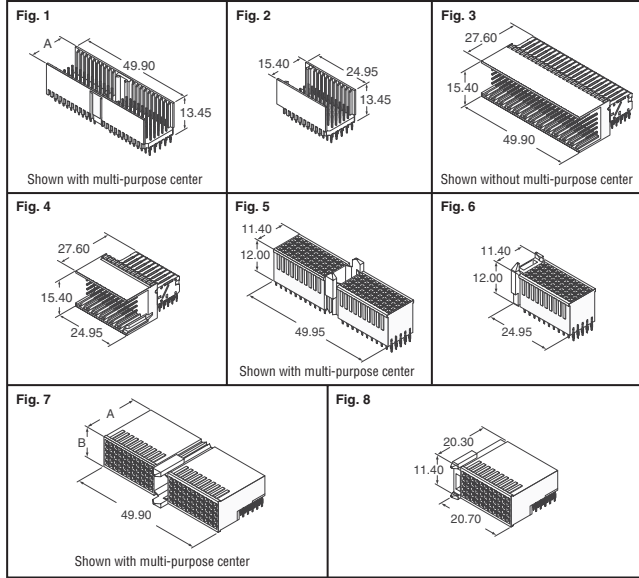


Fig.	No. of Pos.	Dimensions (mm)		Multi-Purpose Center	Shield	Digi-Key Part No.	Price Each			FCI Part No.	
		A	B				1	25	100		
Vertical Headers											
1	200	21.40	—	No	Yes	609-2136-ND	12.44	8.12	7.47	HM2P88PD8111N9LF	
	176	21.40	—	Yes	Yes	609-2135-ND	7.11	4.90	4.45	HM2P87PD8111N9LF	
	125	15.40	—	No	No	609-2129-ND	4.82	3.21	2.88	HM2P08PD5110N9LF	
	125	15.40	—	No	Yes	609-2130-ND	5.15	3.57	3.16	HM2P08PD5111N9LF	
	110	15.40	—	Yes	No	609-2125-ND	4.25	2.84	2.54	HM2P07PD5110N9LF	
	110	15.40	—	Yes	Yes	609-2126-ND	4.73	3.15	2.83	HM2P07PD5111N9LF	
	110	15.40	—	Yes	No	609-2127-ND	7.27	5.01	4.55	HM2P07PK5110GFLF	
	110	15.40	—	No	Yes	609-2134-ND	4.73	3.15	2.83	HM2P07PDE121N9LF	
	2	55	—	—	No	No	609-2131-ND	2.70	1.68	1.52	HM2P09PD5110N9LF
		55	—	—	No	Yes	609-2132-ND	2.97	1.85	1.67	HM2P09PD5111N9LF
Right Angle Headers											
3	125	—	—	No	No	609-2123-ND	18.49	13.87	12.95	HM2J08PE5110N9LF	
	110	—	—	Yes	No	609-2122-ND	12.98	9.45	8.41	HM2J07PE5110N9LF	
4	55	—	—	No	No	609-2124-ND	8.64	6.26	5.57	HM2J09PE5110N9LF	
Vertical Receptacles											
5	110	—	—	Yes	No	609-2154-ND	7.09	4.88	4.43	HM2S10PE5100N9LF	
	110	—	—	Yes	Yes	609-2155-ND	7.56	5.37	4.94	HM2S10PE5101N9LF	
	125	—	—	No	No	609-2152-ND	12.28	8.19	7.42	HM2S02PE5100N9LF	
	125	—	—	No	Yes	609-2144-ND	11.83	8.61	7.80	HM2S02PE5101N9LF	
6	55	—	—	No	No	609-2156-ND	4.51	2.84	2.55	HM2S30PE5100N9LF	
	55	—	—	No	Yes	609-2157-ND	4.79	3.32	2.94	HM2S30PE5101N9LF	
Right Angle Receptacles											
7	110	20.30	11.40	Yes	No	609-2137-ND	6.18	3.89	3.51	HM2R01PA5100N9LF	
	110	20.30	11.40	Yes	Yes	609-2138-ND	3.99	2.59	2.37	HM2R01PA5108N9LF	
	110	20.30	11.40	Yes	No	609-2143-ND	6.61	4.09	3.67	HM2R10PA5100N9LF	
	110	20.30	11.40	Yes	Yes	609-2144-ND	5.84	4.15	3.66	HM2R10PA5108N9LF	
	176	22.30	17.40	Yes	No	609-2148-ND	11.17	7.77	7.05	HM2R87PA8100N9LF	
	176	22.30	17.40	Yes	Yes	609-2149-ND	8.57	6.07	5.59	HM2R87PA810FN9LF	
	125	20.30	11.40	No	No	609-2139-ND	6.76	4.42	3.91	HM2R02PA5100N9LF	
	125	20.30	11.40	No	Yes	609-2140-ND	4.02	2.68	2.40	HM2R02PA5108N9LF	
	200	22.30	17.40	No	No	609-2150-ND	11.80	8.21	7.44	HM2R88PA8100N9LF	
	8	55	—	—	No	No	609-2141-ND	3.70	2.17	1.98	HM2R03PA5100N9LF
55		—	—	No	Yes	609-2142-ND	2.51	1.55	1.37	HM2R03PA5108N9LF	
55		—	—	No	No	609-2145-ND	3.95	2.31	2.11	HM2R30PA5100N9LF	
55		—	—	No	Yes	609-2146-ND	3.99	2.59	2.37	HM2R30PA5108N9LF	

FCI's Metral series is a high-speed 2mm backpanel connector system consisting of right-angle receptacles and vertical headers. The Metral series features a unique stripline structure in the receptacle and outer ground shields in the header. The stripline structure allows the Metral series to have improved signal performance when routed in either a single-ended or a differential pair configuration.

Materials: • Housing: High-temperature, glass filled LCP, UL94V-0 • Receptacle Contacts: Beryllium-copper • Header Pins: Phosphor-bronze • Ground Shields: Phosphor-bronze • Contact Area: Selective gold over nickel • Press-Fit Tails: Tin

Mechanical Performance: • Mating Force: 0.55N maximum per contact pair including ground and shield contacts • Withdrawal Force: 0.20N minimum per contact pair including ground and shield contacts

Electrical Performance: • Operating Temperature: -55°C ~ 105°C • Current Rating: 1A when all contacts are powered or 3A when one contact is powered at a 30°C maximum temperature rise • Contact Resistance: 20 mΩ Maximum • Insulation Resistance: 1000 MΩ Minimum

Applications: • Communications: Transmissions, Access, Switches, Routers • Data: Servers, Storage Enclosures • Miscellaneous: Rack-based systems

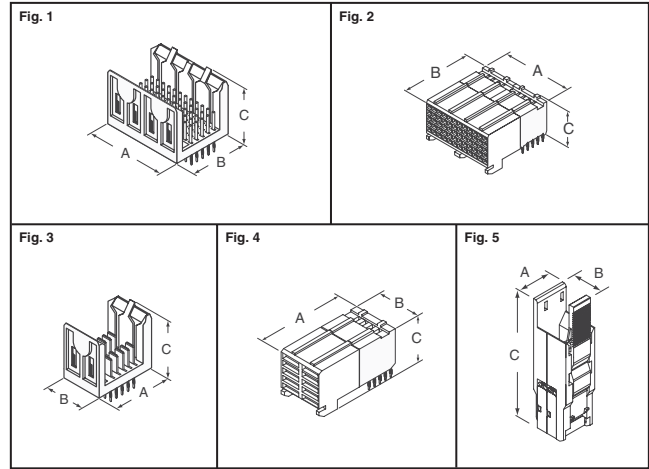


Fig.	No. of Pos.	No. of Rows	Dimensions (mm)			Digi-Key Part No.	Price Each			FCI Part No.	
			A	B	C		1	25	100		
Vertical Headers											
1	24	4	11.93	15.80	17.00	609-2492-ND	2.06	1.18	1.02	70232-111LF	
	30	5	11.88	17.80	17.00	609-2490-ND	7.02	4.83	4.39	55003-101003LF	
	30	5	11.88	17.80	17.00	609-2491-ND	3.74	2.39	2.18	55003-101004LF	
	30	5	11.88	17.80	17.00	609-2498-ND	3.50	2.19	2.00	84817-101001LF	
	30	5	11.93	17.80	17.00	609-2502-ND	2.63	1.57	1.39	89006-110LF	
	48	4	23.93	15.80	17.00	609-2493-ND	3.05	1.90	1.72	70233-111LF	
	60	5	23.93	17.80	17.00	609-2503-ND	2.66	1.64	1.45	89007-110LF	
	96	4	47.93	15.80	17.00	609-2494-ND	5.01	3.47	3.07	70234-111LF	
	Right Angle Receptacles										
	2	24	4	11.95	21.15	9.35	609-2499-ND	2.42	1.42	1.23	88945-102LF
30		5	11.95	23.15	11.35	609-2504-ND	3.00	1.69	1.53	89047-102LF	
30		5	11.98	23.70	10.80	609-2495-ND	6.25	4.43	3.91	73981-102LF	
30		5	11.98	23.85	10.80	609-2488-ND	5.59	3.81	3.43	52057-102LF	
30		5	11.98	23.85	10.80	609-2489-ND	5.83	3.97	3.50	52057-302LF	
48		4	23.95	21.15	9.35	609-2500-ND	4.15	2.51	2.30	88946-102LF	
60		5	23.95	23.15	11.35	609-2505-ND	4.64	3.09	2.77	89093-102LF	
96		4	47.95	21.15	9.35	609-2501-ND	6.77	4.43	3.91	88947-102LF	
96		8	23.98	29.70	16.80	609-2496-ND	18.21	13.93	12.75	74981-102LF	
96		8	23.98	29.70	16.80	609-2487-ND	17.31	12.59	11.21	10041744-102LF	
Vertical Power Header											
3	10	5	17.80	11.93	17.00	609-2507-ND	5.01	3.10	2.78	89099-110LF	
Right Angle Power Receptacle											
4	10	5	23.14	11.95	13.30	609-2506-ND	4.12	2.19	2.00	89096-102LF	
Cable Connector Kits											
5	24	4	12.0	13.9	45.0	609-3193-ND	6.14	4.36	3.84	72476-1111LF	
	24	4	12.0	13.9	45.0	609-3194-ND	3.54	2.25	2.06	72476-1121LF	
	24	4	12.0	13.9	45.0	609-3115-ND	5.47	3.72	3.28	72476-1211LF	
	24	4	12.0	13.9	45.0	609-3116-ND	3.87	2.58	2.31	72476-1221LF	
	48	4	24	13.9	45.0	609-3195-ND	7.33	5.20	4.59	72477-1111LF	
	48	4	24	13.9	45.0	609-3196-ND	10.36	7.54	6.83	72477-1121LF	
	30	5	12.0	16.9	45.0	609-3197-ND	7.25	4.93	4.54	72478-1111LF	
	30	5	12.0	16.9	45.0	609-3198-ND	6.30	4.12	3.64	72478-1121LF	
	30	5	12.0	16.9	45.0	609-3119-ND	7.25	4.93	4.54	72478-1211LF	
	30	5	12.0	16.9	45.0	609-3122-ND	5.82	4.12	3.64	72478-1221LF	
4	48	4	24.0	13.9	45.0	609-3117-ND	10.36	7.54	6.83	72477-1211LF	
	48	4	24.0	13.9	45.0	609-3118-ND	10.67	7.77	7.04	72477-1221LF	
	60	5	24.0	16.9	45.0	609-3199-ND	7.39	5.24	4.82	72479-1111LF	
	60	5	24.0	16.9	45.0	609-3200-ND	12.51	9.10	8.11	72479-1121LF	
60	5	24.0	16.9	45.0	609-3120-ND	12.51	9.10	8.11	72479-1211LF		
60	5	24.0	16.9	45.0	609-3123-ND	12.73	9.26	8.25	72479-1221LF		

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