

MicroCon

0.8 mm Connectors



ERMEC, S.L. BARCELONA
C/ Francesc Teixidó, 22
08918 Badalona
(España)

Tel.: (+34) 902 450 160
Fax: (+34) 902 433 088
info@ermec.com
www.ermec.com

ERMEC, S.L. MADRID
c/ Mejorada, 17, 1ª Pla. Of. D4
28850 Torrejón de Ardoz
(España)

PORTUGAL
portugal@ermec.com
BILBAO
bilbao@ermec.com



Full-scale MicroCon 50 Pins

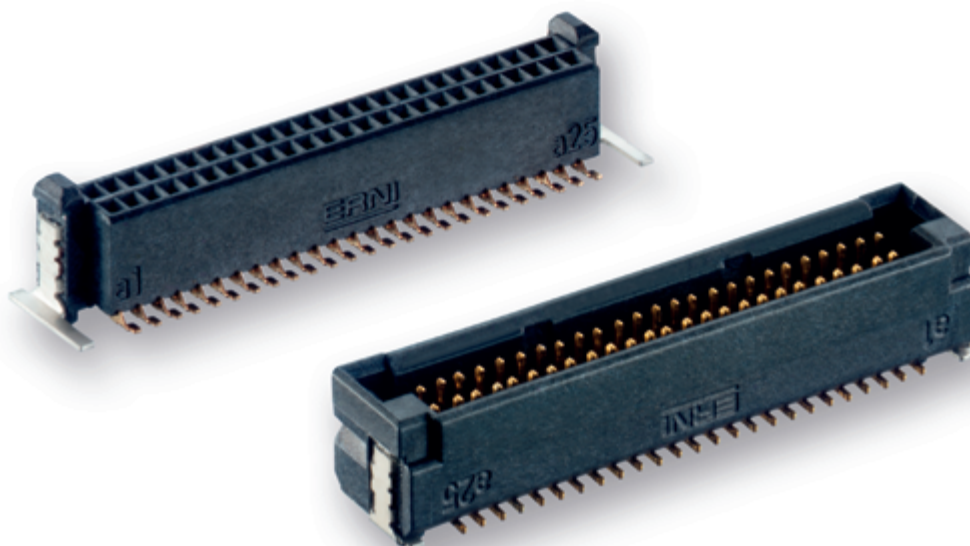
ED. 04 | 09.2014

Catalog E 074606

MicroCon - 0.8 mm Connectors

DUAL ROW CONNECTOR

GENERAL



**MicroCon
Female and Male
Connector**

The dual-row MicroCon series with 0.8 mm pitch is ideal for various demanding applications in the industrial, medical, lighting, automotive and consumer market. Due to the small dimensions - the 50-pin male connectors show dimensions of only 24.2 mm x 4.7 mm with different heights - robustness was crucial during the development. The male connectors are provided with reinforced side walls. Secure mating is ensured by coding and blind mate guide alignments, providing an increased locking range. A unique feature for this miniaturized device size is the double-sided spring contact. The reliable and high quality spring contacts are based on a proven and patented principle, which ERNI Electronics has been continuously scaled down for smaller dimensions. To support

various PCB applications parallel (Mezzanine), right angle (90 °) and coplanar configurations are available. With different heights for the male and female connectors Board-to-Board distances from 5 mm to 20 mm can be realized for Mezzanine applications. Despite the miniaturization the new connectors offer a high mating tolerance with allowed misalignment tolerances of longitudinal and transverse axes of ± 0.7 mm. The allowed angular inclination tolerance is specified with ± 4 degree. The male connector is available with SMT termination. The robust plastic housing of the female connector withstands high temperature and is suitable for leadfree reflow soldering. Tape and reel packaging supports automatic assembly.

MicroCon - 0.8 mm Connectors

DUAL ROW CONNECTOR

TECHNICAL DETAILS

Pitch	0.8 mm
No. of Pins	12 - 140 (possible)
Packaging	Tape and reel for automatic assembly
Current rating per contact	up to 2.3 A at 20 °C
Datarate	up to 3 Gbit/s
Termination	SMT
Variants	Vertical male, Right angle male, Vertical female, Right angle female Cable assemblies



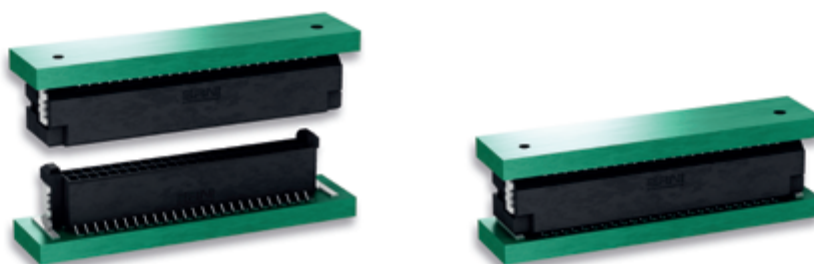
Due to the different connector heights, Board-to-Board distances from 5 to 20 mm can be realized.

MicroCon - 0.8 mm Connectors

CONCEPT

CAPABILITIES

Stacked
boards
(Mezzanine)



Extender card
(coplanar)

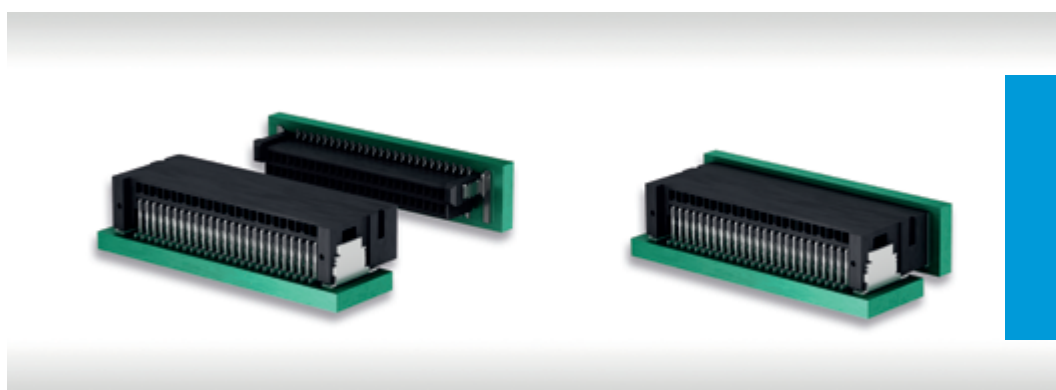
Orthogonal
boards



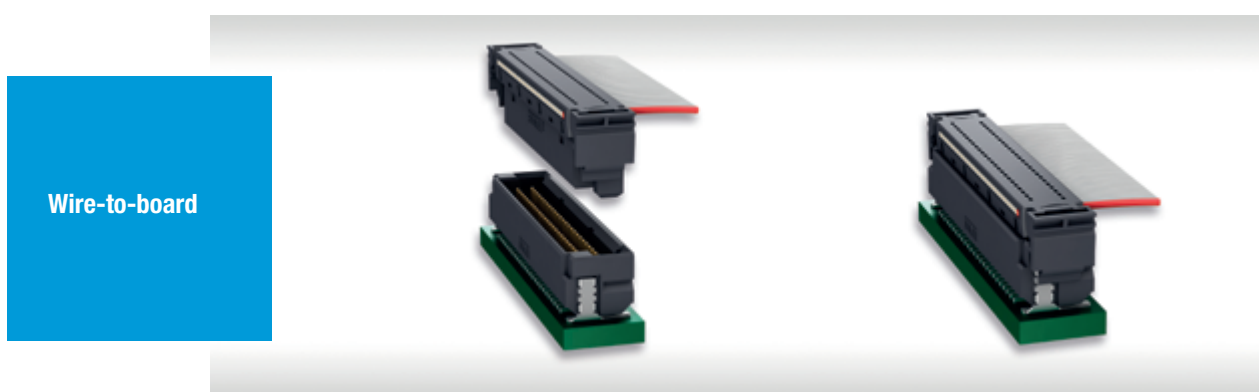
MicroCon - 0.8 mm Connectors

CONCEPT —

CAPABILITIES



Orthogonal
boards



Wire-to-board



Wire-to-board

MicroCon - 0.8 mm Connectors

ADVANTAGES

HIGH RELIABLE CONTACT DESIGN



- ultra-reliable, dual-beam female contact
- rolled, homogeneous surface, guarantees secure contact mating
- wide contact surfaces between the mated pairs
- extremely low surface roughness minimizes abrasion
- low contact resistance

POLARIZATION / MATING FACE

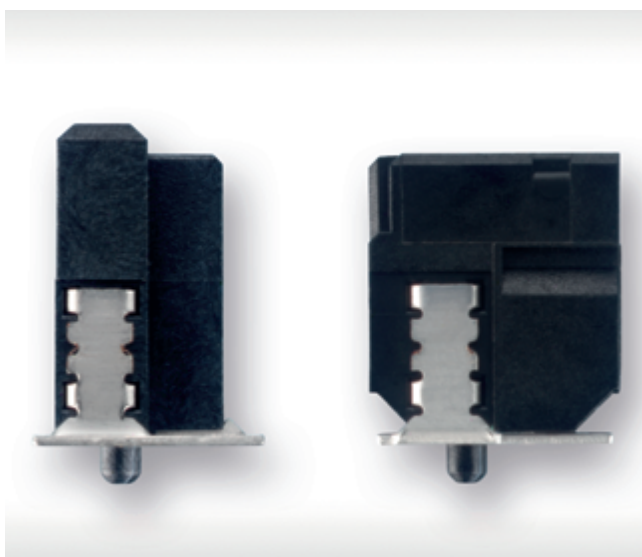


- mating face polarization prevents mismating and incorrect connection
- insertion chamfers in the capture range ensure secure mating
- distinctive guide elements for precise insertion

MicroCon - 0.8 mm Connectors

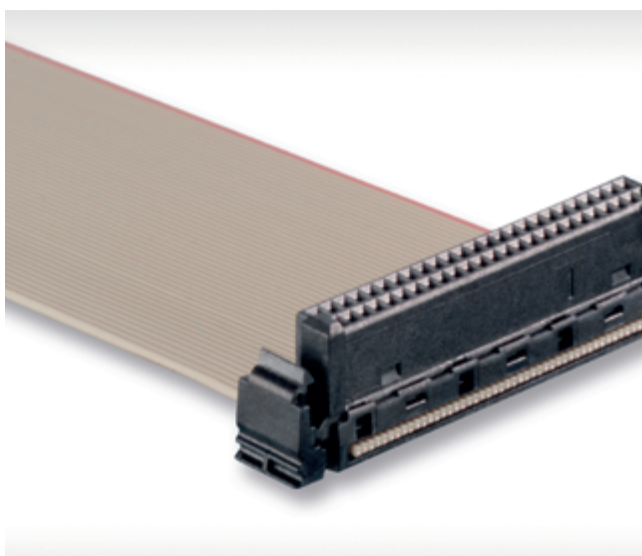
ADVANTAGES

ROBUST SOLDER CLIPS



- outstanding retention forces on the circuit board
- soldering brackets absorb mechanical stress and are able to withstand high shock and vibration loads

LOCKABLE CABLE ASSEMBLIES

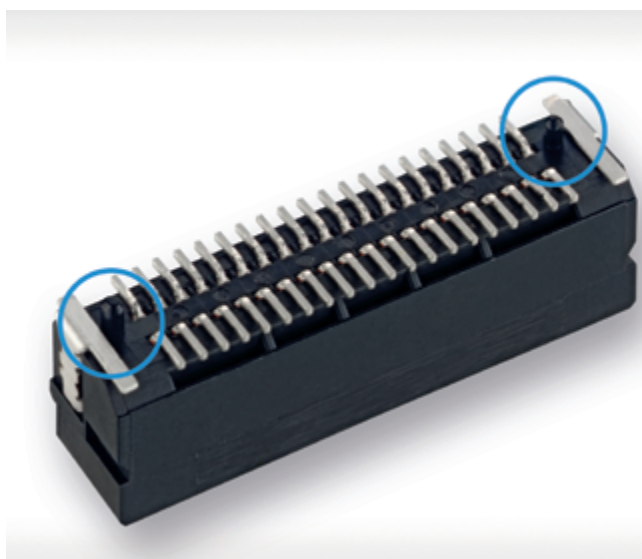


- integrated locking lever; can be manually released without tools
- protection against accidental release of wire-to-board connections
- cable guide ensures strain relief

MicroCon - 0.8 mm Connectors

ADVANTAGES

LOCATING PEGS



- geometrically heterogeneous locating pegs for precise positioning on the circuit board
- enables best possible compensation of PCB holes for both positive and negative tolerances

STACKED BOARDS / MEZZANINE



Board-to-Board Height	Male Connector Stacking Height	Female Connector Stacking Height
5.00 - 6.00 mm	1 mm	4 mm
6.00 - 7.00 mm	2 mm	4 mm
7.00 - 8.00 mm	1 mm	6 mm
8.00 - 9.00 mm	2 mm	6 mm
9.00 - 10.00 mm	1 mm	8 mm
10.00 - 11.00 mm	2 mm	8 mm

MicroCon - 0.8 mm Connectors

PROCESSING —

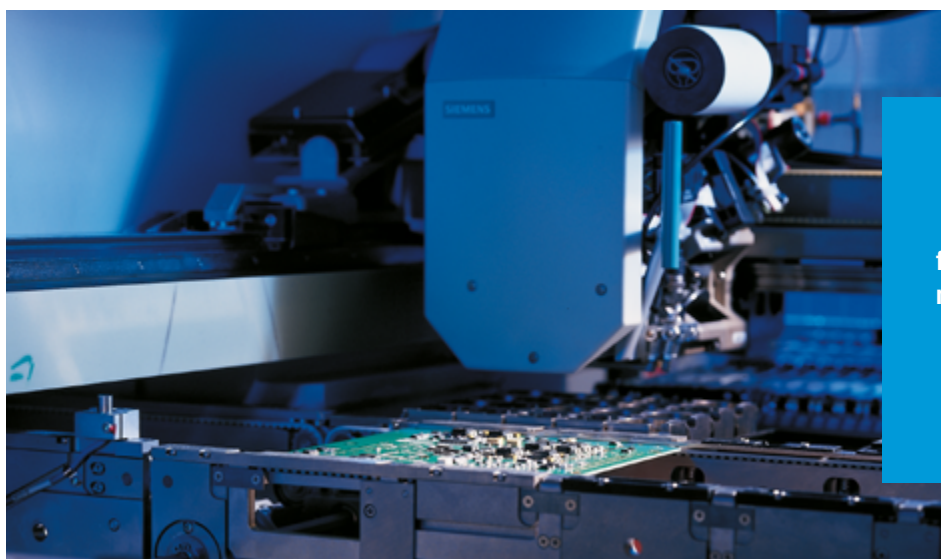
TAPE AND REEL PACKAGING

transport safe packaging
and fully automatic assembly



FULLY AUTOMATIC ASSEMBLY AND REFLOW SOLDERING

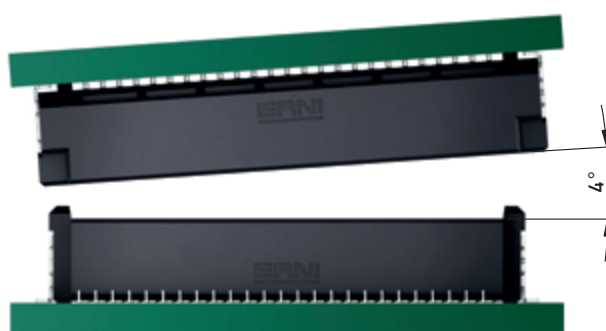
for efficient processing on
modern assembly lines



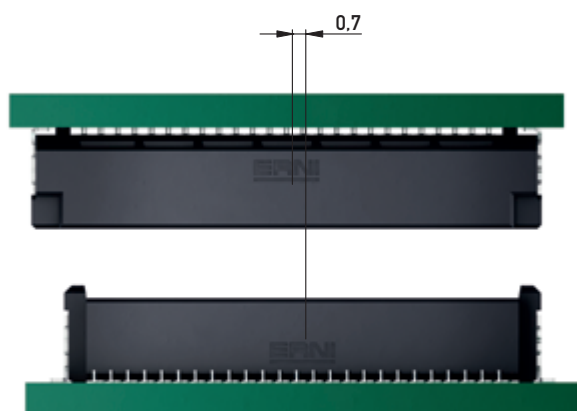
MicroCon - 0.8 mm Connectors

MATING CONDITIONS

ALLOWED INCLINATION FOR A SECURE SELF-CENTERING



ALLOWED MISALIGNMENT TOLERANCES FOR A SECURE SELF-CENTERING



MicroCon - 0.8 mm Connectors

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TECHNICAL DATA

Description	Standard	Male Connector Vertical and Right Angle		Female Connector Vertical and Right Angle	
Climate category	DIN EN 60068-1 test b	55 / 125 / 56			
Temperature range		-55 / 125 °C			
Current rating per contact	IEC60512-5-2 Test 5b	16 pin	20°C 2.33 A	70°C 1.67 A	100°C 1.13 A
		50 pin	1.68 A	1.30 A	0.68 A
Air- and creepage distance		0,25 mm			
Operating voltage	IEC 60664	The permissible operating voltages depend on the customer application and on the applicable or specified safety requirements. Insulation coordination according to IEC 60664-1 has to be regarded for the complete electrical device. Therefore, the maximum creepage and clearance distances of the mated connectors are specified for consideration as a part of the whole current path. In practice, reductions in creepage or clearance distances may occur due to the conductive pattern of the printed board or the wiring used, and have to be taken into account separately. As a result the creepage and clearance distances for the application may be reduced compared to those of the connector.			
Dielectric strength	IEC 60512 test 4a	contact – contact 500 V _{rms}			
Contact resistance	IEC 60512 test 2a	< 25 mΩ			
Insulation resistance	IEC 60512 test 3a	> 10 ⁴ MΩ			
Vibration, sine	IEC 60512 test 6d	10 – 2000 Hz 20 g			
Contact disturbance (while vibration test)	IEC 60512 test 2e	< 1 μs			
Shock halfsine	IEC 60512 test 6c	50 g 11 ms			
Contact disturbance (while shock test)	IEC 60512 test 2e	< 1 μs			



MicroCon - 0.8 mm Connectors

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Description	Standard	Male Connector Vertical and Right Angle	Female Connector Vertical and Right Angle
Mechanical operation	IEC 60512 test 9a	> 250 mating cycles	
Insertion and withdrawal force	IEC 60512 test 13b	16 pin: ~3 N	
Gauge retention force	IEC 60512 test 16e	0.22 N min.	
Processing Conditions			
Reflow soldering temperature max.	JEDEC J-STD-020	20 - 40 s at 260 °C	
Coplanarity		< 0,1 mm	
Housing Material			
Insulation body		PPA	LCP
CTI value	IEC 112	600	175
UL flame rating		UL 94 V-0	UL 94 V-0
UL file plastic material		E83005	E171666
Contact Material			
Base material		Cu alloy	
Mating area		gold plating	
Termination area		Sn	
Clip Material			
Base material		Cu alloy	
Plating		Sn	

MicroCon - 0.8 mm Connector

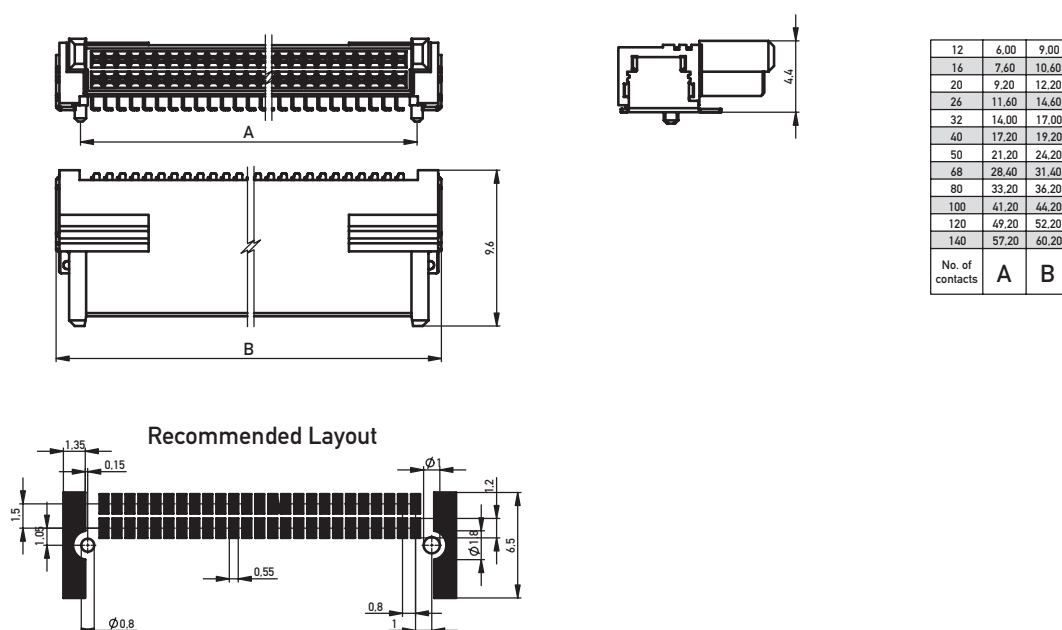
RIGHT ANGLE FEMALE

PRODUCT SPECIFICATION



- 0.8 mm pitch
- tin plated pins
- suitable for lead-free reflow soldering
- tape and reel packaging for automatic assembly
- highly robust fine-pitch connector

DIMENSIONAL DRAWINGS





MicroCon - 0.8 mm Connector

RIGHT ANGLE FEMALE

ORDERING INFORMATION

No. of Pins	Termination	Packaging	Part Number
12	SMT	Tape and reel	294251*
16	SMT	Tape and reel	294252*
20	SMT	Tape and reel	294253*
26	SMT	Tape and reel	294254*
32	SMT	Tape and reel	294255*
40	SMT	Tape and reel	294256*
50	SMT	Tape and reel	294257*
68	SMT	Tape and reel	294258*
80	SMT	Tape and reel	294259*
100	SMT	Tape and reel	294260*
120	SMT	Tape and reel	294261*
140	SMT	Tape and reel	294262*

* Availability on request

MicroCon - 0.8 mm Connector

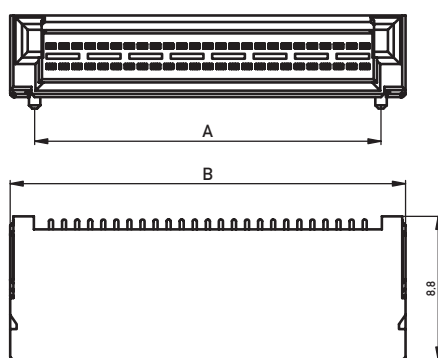
RIGHT ANGLE MALE

PRODUCT SPECIFICATION

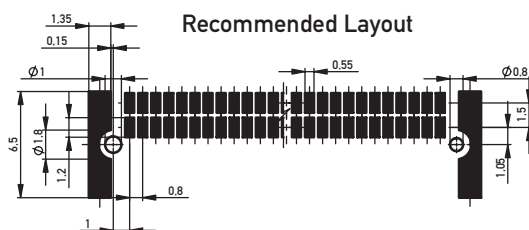


- 0.8 mm pitch
- tin plated pins
- suitable for lead-free reflow soldering
- tape and reel packaging for automatic assembly
- highly robust fine-pitch connector

DIMENSIONAL DRAWINGS



12	6.00	9.00
16	7.60	10.60
20	9.20	12.20
26	11.60	14.60
32	14.00	17.00
40	17.20	19.20
50	21.20	24.20
68	28.40	31.40
80	33.20	36.20
100	41.20	44.20
120	49.20	52.20
140	57.20	60.20
No. of contacts	A	B





MicroCon - 0.8 mm Connector

RIGHT ANGLE MALE —

ORDERING INFORMATION

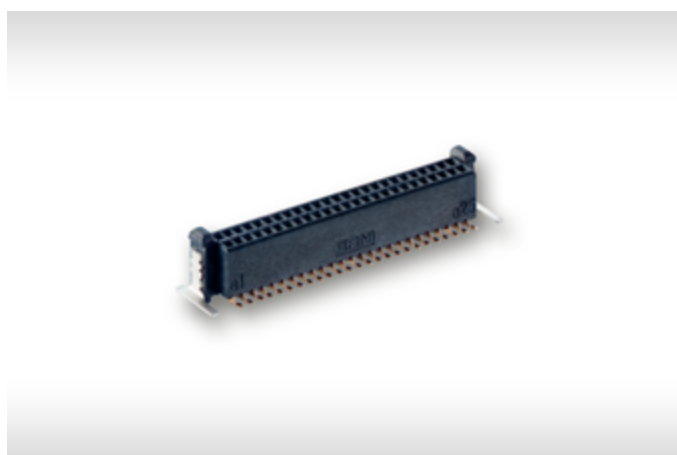
No. of Pins	Termination	Packaging	Part Number
12	SMT	Tape and reel	294282*
16	SMT	Tape and reel	294283*
20	SMT	Tape and reel	294284*
26	SMT	Tape and reel	294285*
32	SMT	Tape and reel	294286*
40	SMT	Tape and reel	294287*
50	SMT	Tape and reel	294288*
68	SMT	Tape and reel	294289*
80	SMT	Tape and reel	294290*
100	SMT	Tape and reel	294291*
120	SMT	Tape and reel	294292*
140	SMT	Tape and reel	294293*

* Availability on request

MicroCon - 0.8 mm Connector

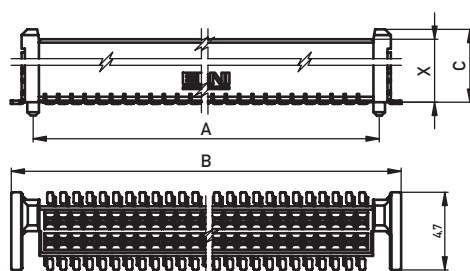
VERTICAL FEMALE

PRODUCT SPECIFICATION



- 0.8 mm pitch
- tin plated pins
- suitable for lead-free reflow soldering
- tape and reel packaging for automatic assembly
- highly robust fine-pitch connector

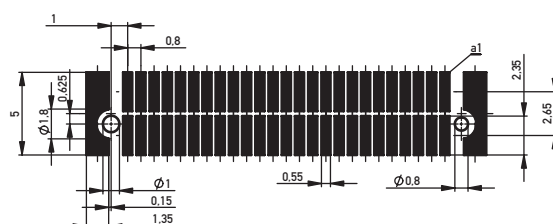
DIMENSIONAL DRAWINGS



8	8.60
6	6.60
4	4.60
Stacking height X	C

12	6.00	8.70
16	7.60	10.30
20	9.20	11.90
26	11.60	14.30
32	14.00	16.70
40	17.20	19.90
50	21.20	23.90
68	28.60	31.10
80	33.20	35.90
100	41.20	43.90
120	49.20	51.90
140	57.20	59.90
No. of contacts	A	B

Recommended Layout





MicroCon - 0.8 mm Connector

VERTICAL FEMALE

ORDERING INFORMATION

No. of Pins	Unmated Stacking Height	Termination	Packaging	Part Number
12	4	SMT	Tape and reel	294000*
12	6	SMT	Tape and reel	294012*
12	8	SMT	Tape and reel	294024*
16	4	SMT	Tape and reel	294001
16	6	SMT	Tape and reel	454925
16	8	SMT	Tape and reel	454926
20	4	SMT	Tape and reel	294002*
20	6	SMT	Tape and reel	294014*
20	8	SMT	Tape and reel	294026*
26	4	SMT	Tape and reel	294003*
26	6	SMT	Tape and reel	294015*
26	8	SMT	Tape and reel	294027*
32	4	SMT	Tape and reel	294004*
32	6	SMT	Tape and reel	294016*
32	8	SMT	Tape and reel	294028
40	4	SMT	Tape and reel	294005*
40	6	SMT	Tape and reel	294017
40	8	SMT	Tape and reel	294029*

* Availability on request



MicroCon - 0.8 mm Connector

VERTICAL FEMALE

No. of Pins	Unmated Stacking Height	Termination	Packaging	Part Number
50	4	SMT	Tape and reel	294006
50	6	SMT	Tape and reel	294018*
50	8	SMT	Tape and reel	294030*
68	4	SMT	Tape and reel	294007*
68	6	SMT	Tape and reel	294019*
68	8	SMT	Tape and reel	294031
80	4	SMT	Tape and reel	294008
80	6	SMT	Tape and reel	294020*
80	8	SMT	Tape and reel	294032*
100	4	SMT	Tape and reel	294009
100	6	SMT	Tape and reel	294021*
100	8	SMT	Tape and reel	294033*
120	4	SMT	Tape and reel	294010*
120	6	SMT	Tape and reel	294022*
120	8	SMT	Tape and reel	294034*
140	4	SMT	Tape and reel	294011*
140	6	SMT	Tape and reel	294023*
140	8	SMT	Tape and reel	294035*

* Availability on request

VERTICAL MALE

A black plastic connector with two rows of gold pins. The top row has 24 pins and the bottom row has 20 pins. The connector is labeled 'NCE' on the side.

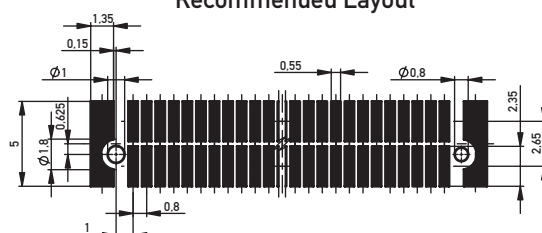
- 0.8 mm pitch
- tin plated pins
- suitable for lead-free reflow soldering
- tape and reel packaging for automatic assembly
- highly robust fine-pitch connector

Technical drawing of the 1000mm x 100mm x 100mm model, showing side and front views with dimensions A, B, C, X, and S.

2	5,8
1	4,8
Stacking height X	C

12	6.00	9.00
16	7.60	10.60
20	9.20	12.20
26	11.60	14.60
32	14.00	17.00
40	17.20	19.20
50	21.20	24.20
68	28.40	31.40
80	33.20	36.20
100	41.20	44.20
120	49.20	52.20
140	57.20	60.20
No. of contacts	A	B

Recommended Layout





MicroCon - 0.8 mm Connector

VERTICAL MALE

ORDERING INFORMATION

No. of Pins	Unmated Stacking Height	Termination	Packaging	Part Number
12	1	SMT	Tape and reel	294133
12	2	SMT	Tape and reel	294145*
16	1	SMT	Tape and reel	454927
16	2	SMT	Tape and reel	454928
20	1	SMT	Tape and reel	294135*
20	2	SMT	Tape and reel	294147*
26	1	SMT	Tape and reel	294136*
26	2	SMT	Tape and reel	294148*
32	1	SMT	Tape and reel	294137*
32	2	SMT	Tape and reel	294149
40	1	SMT	Tape and reel	294138*
40	2	SMT	Tape and reel	294150
50	1	SMT	Tape and reel	294139
50	2	SMT	Tape and reel	294151*
68	1	SMT	Tape and reel	294140
68	2	SMT	Tape and reel	294152*
80	1	SMT	Tape and reel	294141
80	2	SMT	Tape and reel	294153*

* Availability on request



MicroCon - 0.8 mm Connector

VERTICAL MALE —

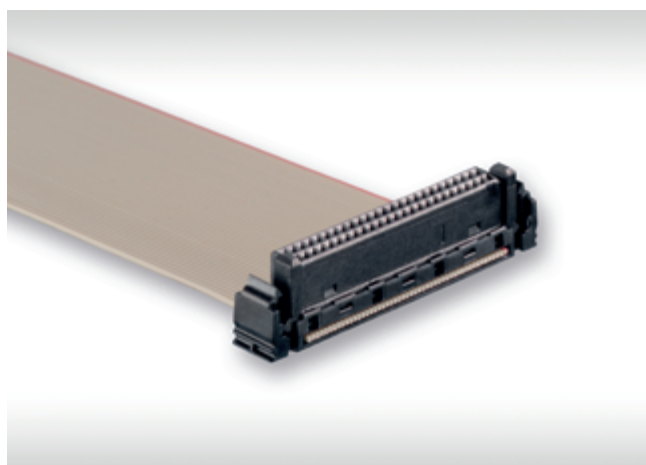
No. of Pins	Unmated Stacking Height	Termination	Packaging	Part Number
100	1	SMT	Tape and reel	294142
100	2	SMT	Tape and reel	294154*
120	1	SMT	Tape and reel	294143*
120	2	SMT	Tape and reel	294155*
140	1	SMT	Tape and reel	294144*
140	2	SMT	Tape and reel	294156*

* Availability on request

MicroCon - 0.8 mm Connectors

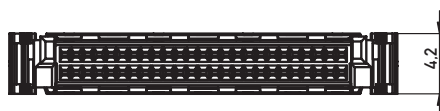
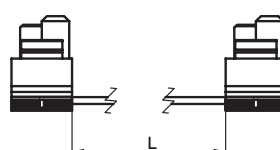
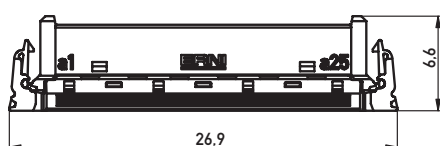
CABLE ASSEMBLIES

PRODUCT SPECIFICATION



- IDC terminals
- ribbon cable AWG 34

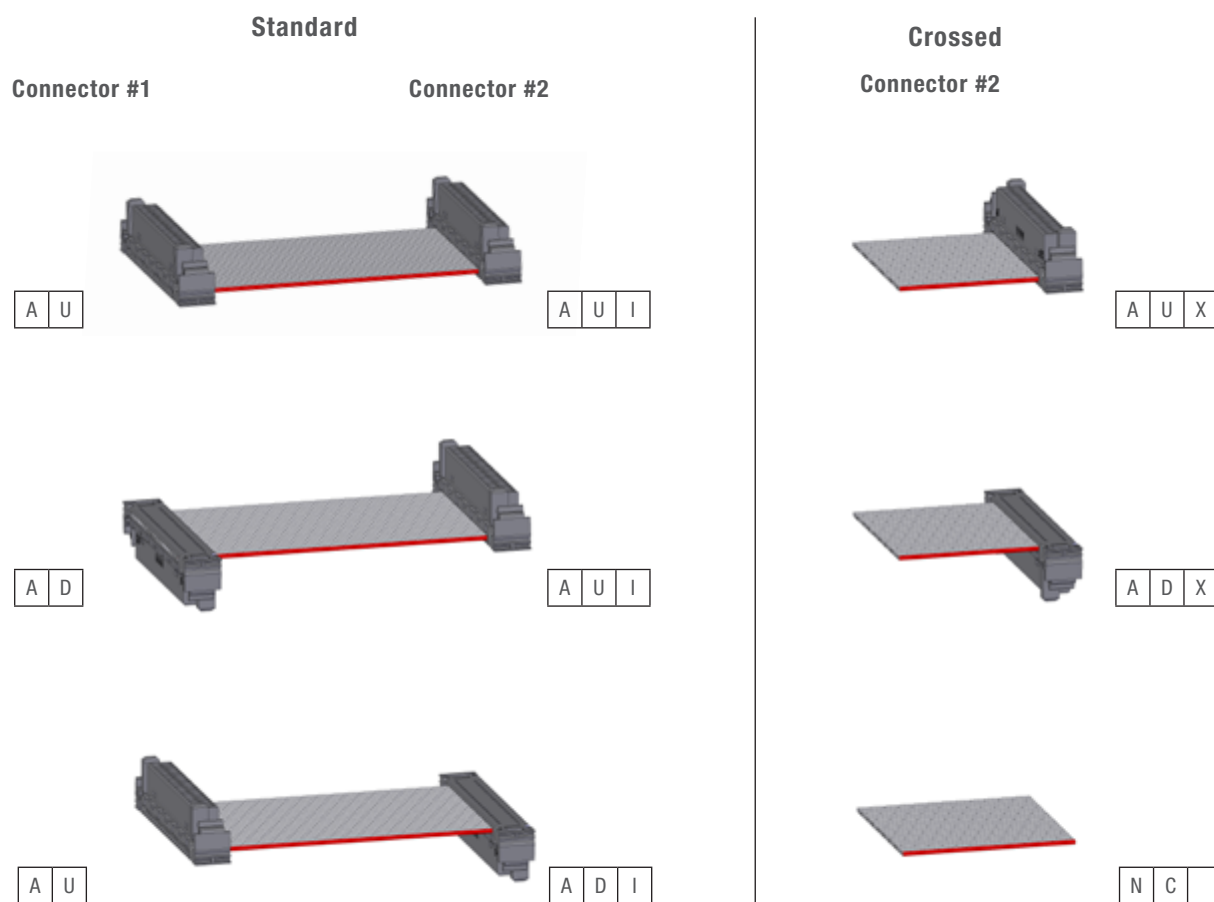
DIMENSIONAL DRAWINGS



MicroCon - 0.8 mm Connectors

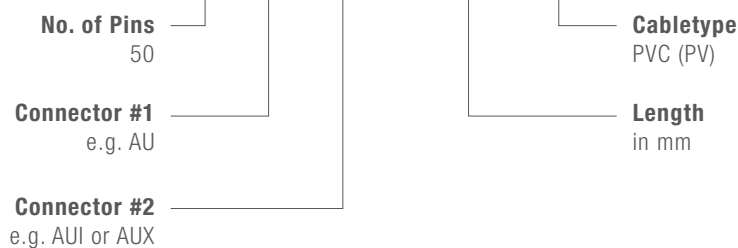
CABLE ASSEMBLIES

ASSEMBLED VARIANTS



ORDER CODE STANDARD CABLE ASSEMBLIES

MicroCon_0.80_□□_□□_□□□_□□□□□_□□





MicroCon - 0.8 mm Connector

PART NUMBER INDEX —

Part Number	Page
294251	14
294252	14
294253	14
294254	14
294255	14
294256	14
294257	14
294258	14
294259	14
294260	14
294261	14
294262	14
294282	16
294283	16
294284	16
294285	16
294286	16
294287	16
294288	16
294289	16
294290	16
294291	16
294292	16
294293	16
294000	18
294012	18

Part Number	Page
294024	18
294001	18
454925	18
454926	18
294002	18
294014	18
294026	18
294003	18
294015	18
294027	18
294004	18
294016	18
294028	18
294005	18
294017	18
294029	18
294006	19
294018	19
294030	19
294007	19
294019	19
294031	19
294008	19
294020	19
294032	19
294009	19



MicroCon - 0.8 mm Connector

PART NUMBER INDEX

Part Number	Page
294021	19
294033	19
294010	19
294022	19
294034	19
294011	19
294023	19
294035	19
294133	21
294145	21
454927	21
454928	21
294135	21
294147	21
294136	21
294148	21

Part Number	Page
294137	21
294149	21
294138	21
294150	21
294139	21
294151	21
294140	21
294152	21
294141	21
294153	21
294142	22
294154	22
294143	22
294155	22
294144	22
294156	22



ERMEC, S.L.
C/ Francesc Teixidó, 22 Tel. (+34) 902 450 160
P. E. Granland, Badalona Sur Fax (+34) 902 433 088
08918 Badalona ermec@ermec.com
Barcelona (SPAIN) www.ermec.com



ERMEC, S.L. BARCELONA
C/ Francesc Teixidó, 22
08918 Badalona
(España)

Tel.: (+34) 902 450 160
Fax: (+34) 902 433 088
info@ermec.com
www.ermec.com

ERMEC, S.L. MADRID
c/ Mejorada, 17, 1ª Pla. Of. D4
28850 Torrejón de Ardoz
(España)

PORTUGAL
portugal@ermec.com
BILBAO
bilbao@ermec.com

ERNI Electronics GmbH & Co. KG

Europe South America Africa Japan

Seestrasse 9
73099 Adelberg
Germany
Tel +49 7166 50-0
Fax +49 7166 50-282
info@erni.com
www.erni.com

ERNI Electronics, Inc.

North America Canada Mexico

2201 Westwood Ave
Richmond, VA 23230/USA
Tel +1 804 228-4100
Fax +1 804 228-4099
info@erni.us

ERNI Asia Holding Pte Ltd.

Asia Australia New Zealand

Blk 4008 Ang Mo Kio Avenue 10
#04-01/02 Techplace I
Singapore 569625
Tel +65 6 555 5885
Fax +65 6 555 5995
info@erni-asia.com

© ERNI Electronics GmbH & Co. KG 2014 • Printed in Germany • A policy of continuous improvement is followed and the right to alter any published data without notice is reserved.

ERNI®, ERNI WoR&D®, Act. Connect. Perfect®, MicroCon®, MicroStac®, MicroSpeed®, MiniBridge®, MaxiBridge®, ERmet®, ERmet ZD®, ERmet ZDplus®, ERmet ZD HD®, ERbic®, ERNIPRESS®, INTERact®, BLUEcontact® and WHITEspeed® are trademarks (registered or applied for in various countries) of ERNI Electronics GmbH & Co. KG.