



Australian Representatives
ROJONE, PTY LTD.
Tel: 02 9829 1555
E: sales@rojone.com.au
www.rojone.com.au



HIGH PERFORMANCE
MICRO-CONNECTORS



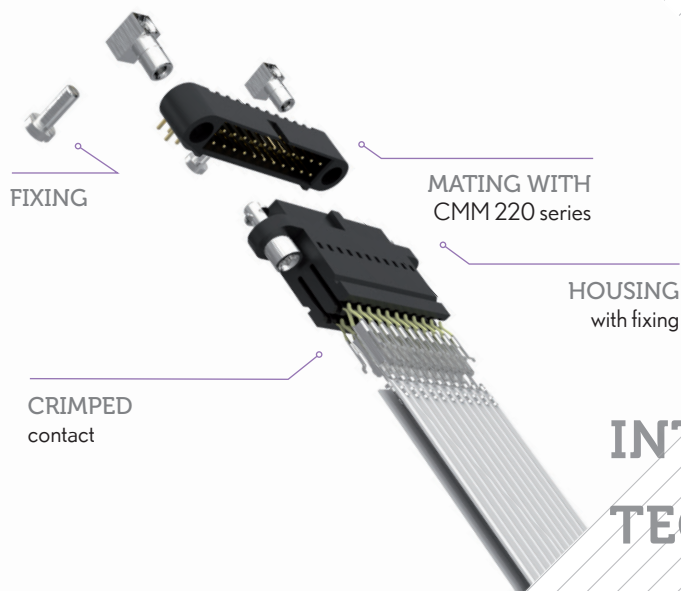
MICROFLEX™
HI-REL FLEXIBLE HARNESS



MANUFACTURER & DESIGNER OF INTERCONNECT SOLUTIONS



CONTENT



INTRODUCTION	3
TECHNICAL DATA	4
MANUFACTURING	5
QUALITY	5
APPLICATIONS	6
MICROFLEX FEMALE-FEMALE	
HOW TO ORDER	7
CMM MATING PARTS	8
DIMENSIONS	9
MICROFLEX SOLDERPIN-FEMALE	
HOW TO ORDER	10
CMM MATING PARTS	11
DIMENSIONS	12
MICROFLEX OCTOPUS	
HOW TO ORDER	13
CMM MATING PARTS	13
DIMENSIONS	14

Introduction



MICROFLEX™

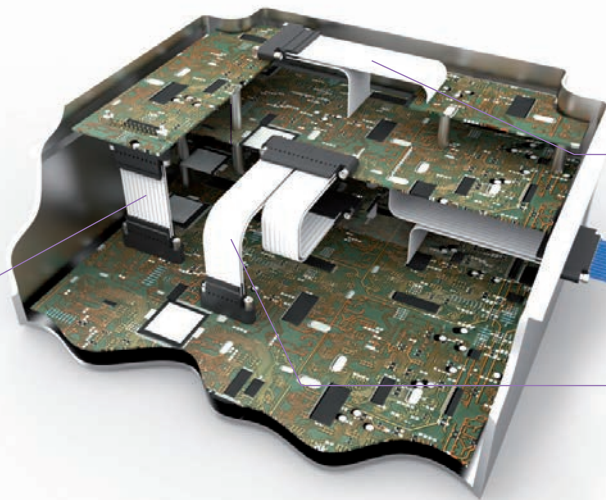
MICROFLEX jumpers suit applications where space & weight savings are critical. The use of screw fixings provides **strong mechanical resistance** for use in **high vibration environments** such as: equipment in medical, aircraft control, in-flight entertainment, electrical power systems, optronics, multi function displays.

NICOMATIC provides an alternative to classic round cables

- 2mm pitch
- 2 rows, from 04 to 60 signal contacts
- Board to board, board to cable, cable to cable versions
- 3A contacts

Configuration examples

MICROFLEX Female-female



MICROFLEX SOLDERPIN Solderpin - female

CMM 220 Mating with

MICROFLEX OCTOPUS Multibranches

MAIN BENEFITS

- **Weight & space saving:** saves up to 60% vs round cables
- **Flexibility and high life expectancy:** 10 000 000 cycles (polyester cable)
- **Reliability:** Vibration resistance according to MIL DTL 55302F
- **Easy to order:** all-in-one product simplifies ordering
- **Easy to design-In:** wide range with all housing sizes from 04 to 60 contacts, polyester or polyimide material, shielding option, numerous fixings



High vibration

High vibration

MICROFLEX FEMALE - FEMALE

- Screw fixing on both ends
- Up to 20 gn vibration resistance
- Disconnectable on both sides

MICROFLEX SOLDERPIN FEMALE

- Different length on each branch
- Panel mount option
- Numerous fixing hardware options

MICROFLEX "OCTOPUS"

- From 02 to 10 branches
- Different lengths on each branch
- Any number of pins for each termination

MATING WITH CMM 220 series



More options ?
Download the interactive pdf:
www.nicomatic.com/dl/microflex.pdf

Technical data according to MIL-DTL-55302F

MATERIAL

- **Contact:** Phosphor bronze
- **Housing:** Special PPS (Polyphenylene Sulfide Fiberglass filled thermoplastic) UL 94-V0
- **Cable:**
 - White polyester (classified UL VW-1)
 - Polyimide (kapton)
- **Stainless steel jackscrew fixing hardware**

PLATING

- **Contact code F3:** Selective gold plated (Ni 1 to 2 μ + Sn pur 3 to 5 μ + Au 0.75 μ)

MECHANICAL

- **Max. mating force per contact:** 2 N
- **Min. unmating force per contact:** 0.2 N
- **Crimp tensile strength:** 15 N
- **Retention force into using:** 20 N
- **Mechanical operations:** 500 cycles

ELECTRICAL

- **Minimun breakdown voltage:** 1000 Vrms
- **Proof voltage:** 750 Vrms
- **Working voltage:** 250 Vrms
- **Current:** 3 A max. @ 25°C
- **Contact resistance:** 15 mOhms max.
- **Insulation resistance:** >300 GOhms

THERMAL

- **Operating temperature:**
 - Female-female
 - 55°C to +105°C for Polyester cable
 - 55°C to +125°C for Polyimide cable
 - Solderpin-female
 - 40°C to +105°C for Polyester cable
 - 40°C to +125°C for Polyimide cable

According to the test routines other than MIL, our technical features reach higher performances. Please contact technic@nicomatic.fr for more information.

For eg:

Up to 20 g_n (Female - Female & Octopus)

Up to 2500 cycles

Other option upon request:

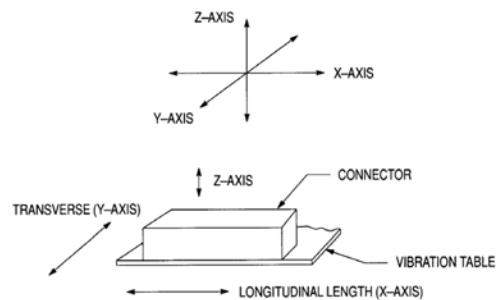
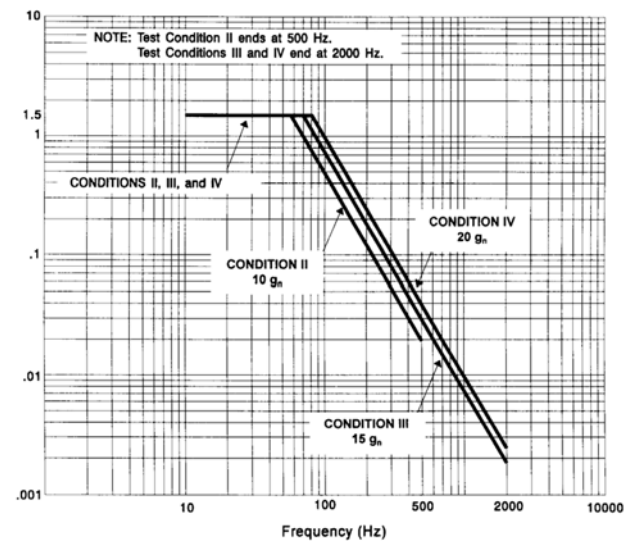
Shielding, high temperature, material, controlled impedance & LVDS.

VIBRATION RESISTANCE

Vibration test according to MIL-DTL-55302F §3.16 and §4.16.10 Test condition III 147.1m/s² (15g_n) @ ambient condition of use according to the Qualification test report conditions.

■ Extract

Vibration conditions shall be in accordance to the following conditions (condition III) :



Vibration conditions shall be in accordance with the following conditions (conditions III).

Frequency range Hz	Peak level	
High - 10 to 2000 Hz*	15 g _n	147.1 m/s ²

*This cycle shall be performed 12 times according to 3 axis

Test results (Female-Female & Octopus):

No electrical interruption greater than one micro-second during vibration test, no sign of loosening, fracture or other deterioration to the mounting hardware after the test.

Manufacturing

NICOMATIC has efficient automated production equipment adapted to mass production in all facilities in Europe, United States and Asia. The company controls FFC cable production from lamination to isolation, laser cutting and shielding.

Contact manufacturing

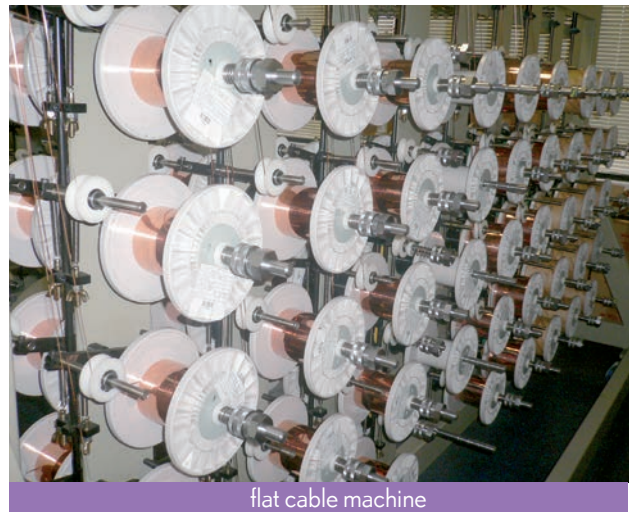
Developed and patented by NICOMATIC, the CRIMPFLEX™ connection system complies with the most rigorous electrical and mechanical requirements. Our contacts are designed and produced in our HQ. Thanks to 100% control of the manufacturing process, NICOMATIC ensures the quality and lead-time of our products, as well as a wide range and flexibility to specific requirements.



injection molding machine



crimp contact



flat cable machine

Quality

In order to meet the requirements of the high-technology electronics market, Nicomatic refers to EN9100 and ISO9001 certification to build its quality system. The control of all steps from product conception to delivery allows our clients to obtain a product specifically adapted to their needs. Our strategy of continuous quality improvement ensures long term development and growth for all of Nicomatic's partners. Nicomatic is compliant with RoHS and REACH requirements. The company's commitment to provide ever higher levels of product quality and customer service is inspired by LEAN Management and is driven by an internal continuous improvement process called "LEXOR" (operational excellence).



- EN 9100: 2009
- ISO 9001: 2008
- REACH
- RoHS
- UL standards

Applications

Microflex jumpers are suitable for applications in various fields.

Avionics

Line replaceable unit, smart multifunction displays, generator control unit, test equipment, in flight entertainment systems...

Defense

Telemetry system in aerial vehicle UAV, portable missiles, thermal cameras...

Communication

Receiver simulator for weather radar, transceiver for satellite communication...

Automation

Printers, robotic platforms, identification and handling robots, sorters...

Energy

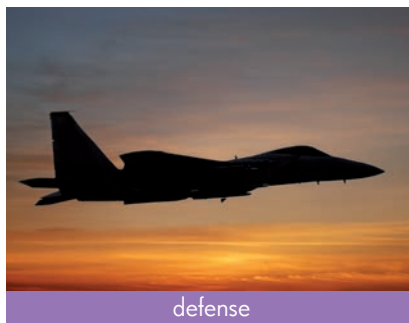
Batteries for electrical vehicles, accelerometer sensors...

Medical

Imaging instruments, medical sensors, automation systems...

Microflex family fits to applications where customer requirements are:

- **space & weight saving:**
saves up to 60% vs round cables
- **flexibility:**
10 000 000 cycles (polyester cable)
- **resistance to vibration:**
Peak level 15 g_n / 147.1 m/s²
according MIL DTL-55302F
(Female - Female & Octopus Microflex™)





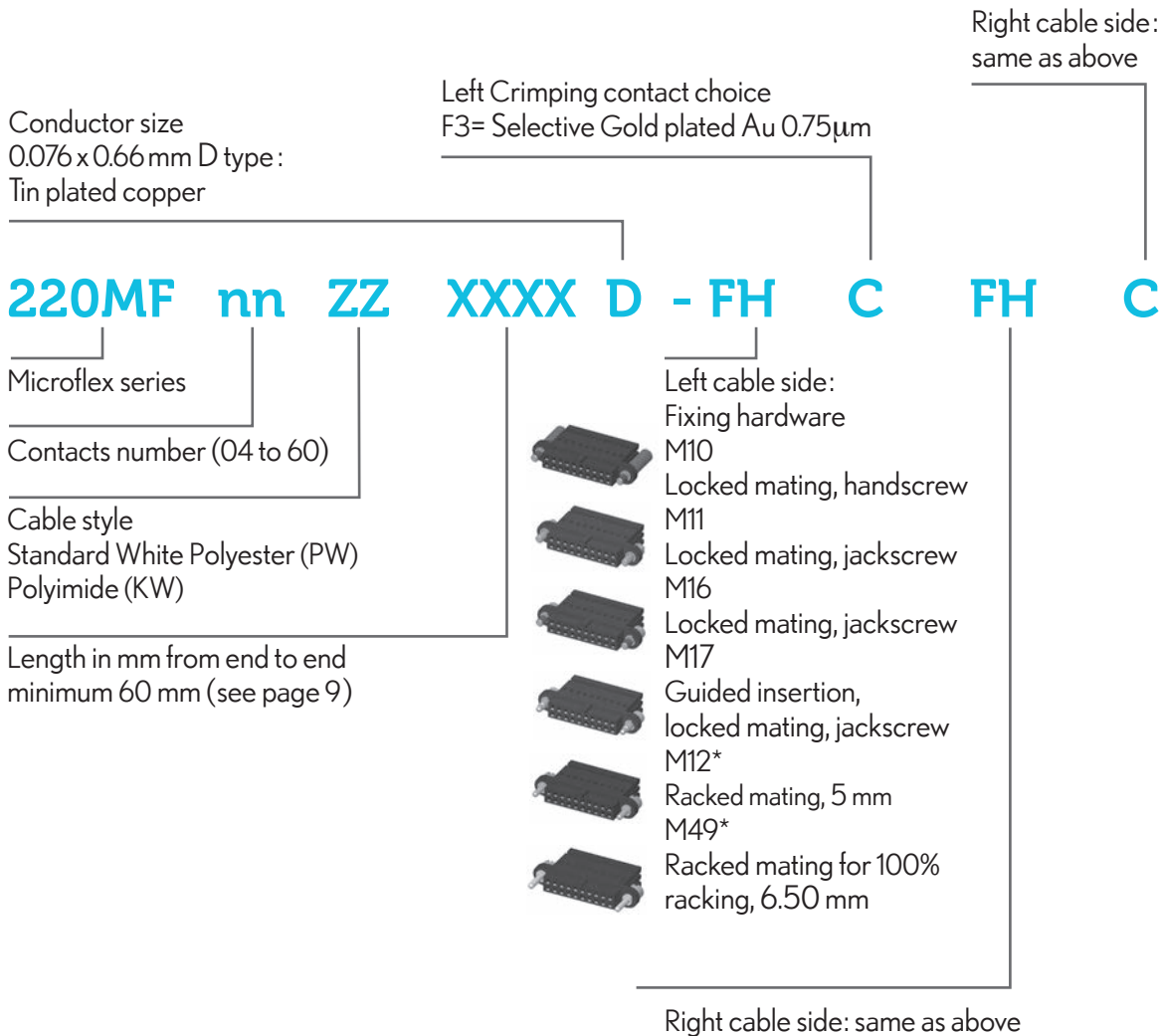
MICROFLEX FEMALE - FEMALE



220MF26PW0150D-M16F3M16F3

- BOTH SIDES: FEMALE HOUSING TO MATE WITH CMM 220 SERIES CONNECTORS
- SCREW FIXING ON BOTH ENDS
- HIGH VIBRATION RESISTANCE
- DISCONNECTABLE ON BOTH SIDES





















➔ HOW TO ORDER ?



More options ?
Download the interactive pdf:
nicomatic.com/dl/microflex.pdf

*Not applicable for panel mount

CMM MATING PARTS

Series	Contact type	Contact Layout	Fixing Hardware	
221	S = To crimp Gauge 24-28	From 04 to 60	 F21 = Locked mating, straight on 90°	STRAIGHT
	C = To crimp Gauge 22		 F22 = Locked mating, straight on PCB 0.8 min / 2 max	
	Y = Straight on PCB L 3 mm		 F22H = F22 with hexagonal nut	
	YL = Straight on PCB L 4.5 mm		 F24 = Locked mating, straight on PCB 1.5 min / 4 max	
	V = 90° on PCB L 3 mm		 F24H = F24 fixing with hexagonal nut	
	VL = 90° on PCB L 4.5 mm		 F24L = F24 for PCB max 6 mm	
	T = Straight SMT PCB L 3 mm		 F28 = Locked mating for connector with cover	
	TL = Straight SMT PCB L 4.10 mm		 F26 = Locked mating, 90° on PCB hexagonal socket	
	R = 90° SMT L 0.9 mm		 F23 = Locked mating, 90° on PCB	
			 F30 = Locked mating, 90° on PCB max 2.5	
			 F30H = F30 with hexagonal nut	
			 F31 = Locked mating, 90° on PCB max 4.5 mm	
			 F31H = F31 with hexagonal nut	
			 F34 = Card edge locked mating	
			 F62 = 100% guided racking, straight PCB	RACKING
			 F25 = 100% guided racking 90° PCB	

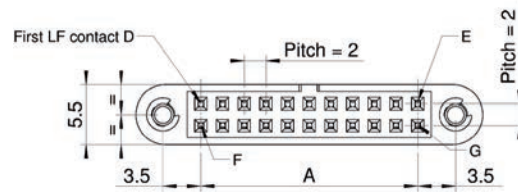
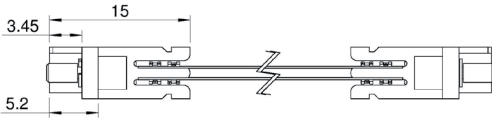


More options ?
 Download the interactive pdf:
nicomatic.com/dl/microflex.pdf

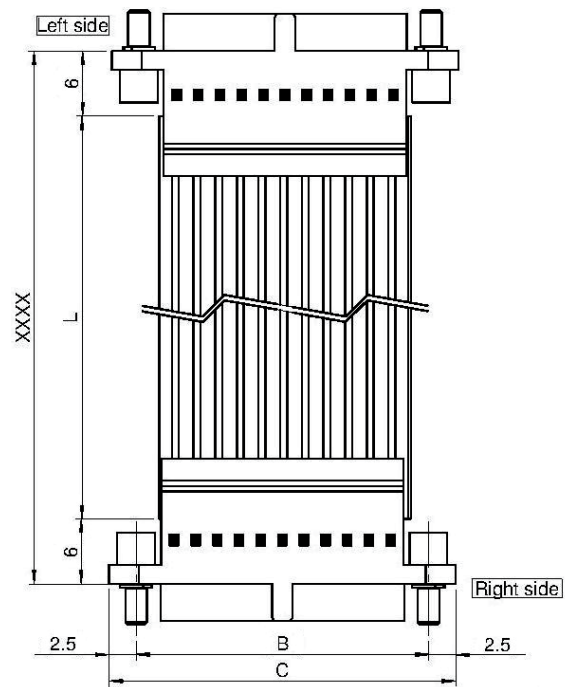
CMM MATING FIXING HARDWARE

		F28	F34	F21	F22	F22H	F24	F24H	F24L	F25	F26	F23	F30	F30H	F31	F31H	F62	
MICROFLEX FIXING HARDWARE	M10	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
	M11	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
	M12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	M16	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
	M17	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
	M49																	✓

→ DIMENSIONS



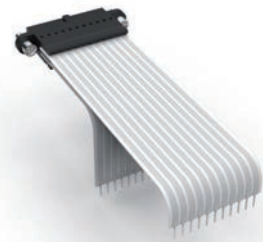
MICROFLEX HOUSINGS							
LF contacts number	Distance between axes (mm)		Length (mm)	LF contacts reference mark number			
	A	B		D	E	F	G
04	2	9	14	1	2	3	4
06	4	11	16	1	3	4	6
08	6	13	18	1	4	5	8
10	8	15	20	1	5	6	10
12	10	17	22	1	6	7	12
14	12	19	24	1	7	8	14
16	14	21	26	1	8	9	16
18	16	23	28	1	9	10	18
20	18	25	30	1	10	11	20
22	20	27	32	1	11	12	22
24	22	29	34	1	12	13	24
26	24	31	36	1	13	14	26
28	26	33	38	1	14	15	28
30	28	35	40	1	15	16	30
32	30	37	42	1	16	17	32
34	32	39	44	1	17	18	34
36	34	41	46	1	18	19	36
38	36	43	48	1	19	20	38
40	38	45	50	1	20	21	40
42	40	47	52	1	21	22	42
44	42	49	54	1	22	23	44
46	44	51	56	1	23	24	46
48	46	53	58	1	24	25	48
50	48	55	60	1	25	26	50
52	50	57	62	1	26	27	52
54	52	59	64	1	27	28	54
56	54	61	66	1	28	29	56
58	56	63	68	1	29	30	58
60	58	65	70	1	30	31	60





MICROFLEX SOLDERPIN-FEMALE

- ONE SIDE: FEMALE HOUSING TO MATE WITH CMM 220 SERIES CONNECTORS
- ON OTHER SIDE: SOLDERPIN CONTACT
- DIFFERENT LENGTHS ON EACH BRANCH OPTIONS
- PANEL MOUNT
- NUMEROUS FIXING HARDWARE OPTIONS



220MF22PW0100T-T1M16F3

→ HOW TO ORDER ?

Conductor size
AWG 26 - 1.30 mm x 0.10 mm
T type: Tin plated copper

Contact selected for the female side
Right cable side : contact plating
F3 = selective Gold plated Au 0.75 μm

Left cable side:
T1 Tin plated - Solderpin contacts

220 MF nn ZZ XXXX T - T1 FH C

Microflex series

Contacts number (04 to 60)

Cable style
Standard White Polyester (PW)
Kapton (KW)

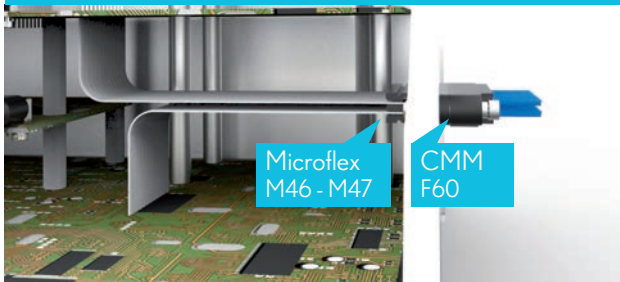
Length in mm from end to end
minimum 55 mm

For different lengths on each branch
ask a specific PN to your sales contact.

Right cable side: Fixing hardware
Fixing hardware table:

- M10**
Locked mating, handscrew
- M11**
Locked mating, jackscrew
- M16**
Locked mating, jackscrew
- M17**
Guided insertion, locked mating jackscrew
- M46**
Locked mating for reverse fixing,
on PCB 1.5 mm / 2.5 max
- M47**
Locked mating for reverse fixing,
on PCB 1.5 min / 4 max
- M12**
Racked mating, on PCB 0.8 min / 2 max
- M12L**
Racked mating, on PCB 1.5 min / 4 max
- M49**
Racked mating for 100% racking, on PCB
0.8 min / 2 max
- M49L**
Racked mating for 100% guided racking,
on PCB 1.5 min / 4 max

Example with Microflex Solderpin + CMM on panel mount



Microflex
M46 - M47

CMM
F60

+ Reverse construction w/ CMM on PCB + Microflex on panel mount possible. Please contact us.

CMM MATING PARTS

Series	Contact type	Contact Layout	Fixing Hardware		
221	S = To crimp Gauge 24-28	From 04 to 60	 F21 = Locked mating, straight on PCB	STRAIGHT	
	C = To crimp Gauge 22		 F60 = Locked mating, straight on PCB		
	Y = Straight on PCB L 3 mm		 F22 = Locked mating, straight on PCB 0.8 min / 2 max		
	YL = Straight on PCB L 4.5 mm		 F22H = F22 with hexagonal nut		
	V = 90° on PCB L 3 mm		 F24 = Locked mating, straight on PCB 1.5 min / 4 max		
	VL = 90° on PCB L 4.5 mm		 F24H = F24 fixing with hexagonal nut		
	T = Straight SMT PCB L 3 mm		 F24L = F24 for PCB max 6 mm		
	TL = Straight SMT PCB L 4.10 mm		 F28 = Locked mating for connector with cover		
	R = 90° SMT L 0.9 mm		 F26 = Locked mating, 90° on PCB hexagonal socket		
			 F23 = Locked mating, 90° on PCB		LOCKED MATING
			 F63 = Locked mating, 90° on PCB max 1.6 mm		
			 F63L = Locked mating, 90° on PCB max 3.2 mm		
			 F30 = Locked mating, 90° on PCB max 2.5		
			 F30H = F30 with hexagonal nut		
			 F31 = Locked mating, 90° on PCB max 4.5 mm		
			 F31H = F31 with hexagonal nut		
			 F34 = Card edge locked mating		
			 F62 = 100% guided racking, straight PCB	RACKING	
			 F25 = 100% guided racking 90° PCB		

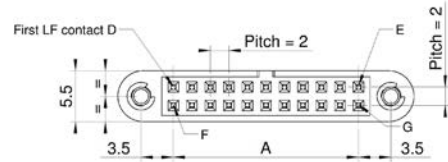
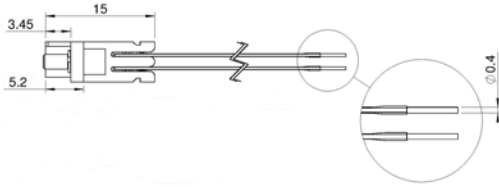


More options ?
 Download the interactive pdf
nicomatic.com/dl/microflex.pdf

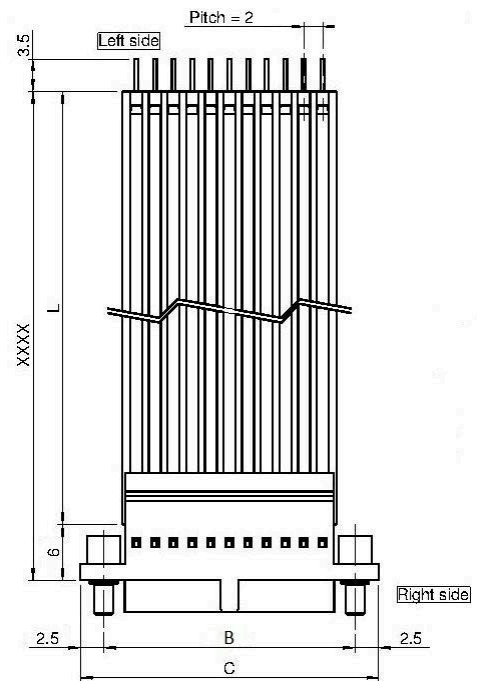
CMM MATING FIXING HARDWARE

		F28	F34	F21	F22	F22H	F24	F24H	F24L	F25	F26	F23	F30	F30H	F31	F31H	F60	F62	F63	F63L	
MICROFLEX FIXING HARDWARE	M10	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
	M11	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
	M12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			
	M12L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			
	M16	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
	M17	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
	M46																	✓		✓	✓
	M47																	✓		✓	✓
	M49																		✓		
	M49L																		✓		

DIMENSIONS



MICROFLEX HOUSINGS							
LF contacts number	Distance between axes (mm)		Length (mm)	LF contacts reference mark number			
	A	B		D	E	F	G
04	2	9	14	1	2	3	4
06	4	11	16	1	3	4	6
08	6	13	18	1	4	5	8
10	8	15	20	1	5	6	10
12	10	17	22	1	6	7	12
14	12	19	24	1	7	8	14
16	14	21	26	1	8	9	16
18	16	23	28	1	9	10	18
20	18	25	30	1	10	11	20
22	20	27	32	1	11	12	22
24	22	29	34	1	12	13	24
26	24	31	36	1	13	14	26
28	26	33	38	1	14	15	28
30	28	35	40	1	15	16	30
32	30	37	42	1	16	17	32
34	32	39	44	1	17	18	34
36	34	41	46	1	18	19	36
38	36	43	48	1	19	20	38
40	38	45	50	1	20	21	40
42	40	47	52	1	21	22	42
44	42	49	54	1	22	23	44
46	44	51	56	1	23	24	46
48	46	53	58	1	24	25	48
50	48	55	60	1	25	26	50
52	50	57	62	1	26	27	52
54	52	59	64	1	27	28	54
56	54	61	66	1	28	29	56
58	56	63	68	1	29	30	58
60	58	65	70	1	30	31	60





MICROFLEX OCTOPUS

- FEMALE HOUSING ON BOTH SIDES
- DIFFERENT LENGTHS UPON REQUEST
- UP TO 10 BRANCHES



PN C17XXX

→ HOW TO ORDER ?

As there are over 200 possible configurations, customer specific part numbers will be issued. Please ask your sales contact.

FIXING HARDWARE OPTIONS:



M10
Locked mating, handscrew



M11
Locked mating, jackscrew



M16
Locked mating, jackscrew



M17
Guided insertion, locked mating, jackscrew



M12*
Racked mating, 5 mm



M49*
Racked mating for 100% racking, 6.50 mm

* Not applicable for panel mount

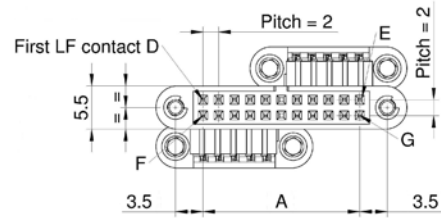
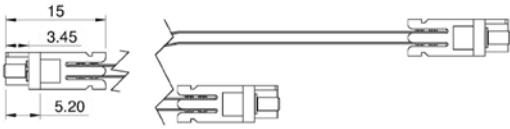


More options ?
Download the interactive pdf
nicomatic.com/dl/microflex.pdf

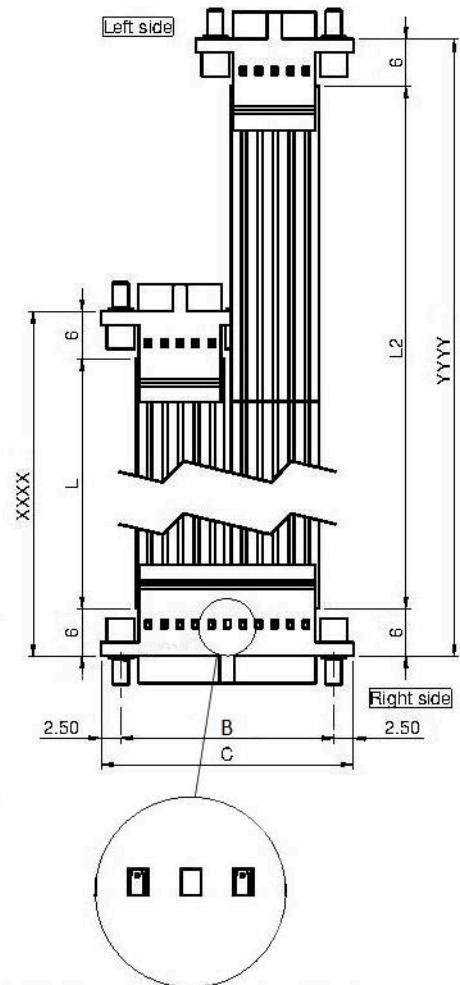
CMM MATING FIXING HARDWARE

		F28	F34	F21	F22	F22H	F24	F24H	F24L	F25	F26	F23	F30	F30H	F31	F31H	F62	
MICROFLEX FIXING HARDWARE	M10	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
	M11	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
	M12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	M16	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
	M17	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
	M49																	✓

→ DIMENSIONS



MICROFLEX HOUSINGS							
LF contacts number	Distance between axes (mm)		Length (mm)	LF contacts reference mark number			
	A	B		D	E	F	G
04	2	9	14	1	2	3	4
06	4	11	16	1	3	4	6
08	6	13	18	1	4	5	8
10	8	15	20	1	5	6	10
12	10	17	22	1	6	7	12
14	12	19	24	1	7	8	14
16	14	21	26	1	8	9	16
18	16	23	28	1	9	10	18
20	18	25	30	1	10	11	20
22	20	27	32	1	11	12	22
24	22	29	34	1	12	13	24
26	24	31	36	1	13	14	26
28	26	33	38	1	14	15	28
30	28	35	40	1	15	16	30
32	30	37	42	1	16	17	32
34	32	39	44	1	17	18	34
36	34	41	46	1	18	19	36
38	36	43	48	1	19	20	38
40	38	45	50	1	20	21	40
42	40	47	52	1	21	22	42
44	42	49	54	1	22	23	44
46	44	51	56	1	23	24	46
48	46	53	58	1	24	25	48
50	48	55	60	1	25	26	50
52	50	57	62	1	26	27	52
54	52	59	64	1	27	28	54
56	54	61	66	1	28	29	56
58	56	63	68	1	29	30	58
60	58	65	70	1	30	31	60



The main housing requires two empty cavities.
 Example: For a main housing of 22 pins,
 the two branches' housings will be 10pins and 10pins



OUR MAIN product ranges

High performance connectors

CMM connectors
DMM Micro-D-Mix™ connectors
OMM 8-series micro circular
Microflex™...



Connectors for flexible circuits & FFC cables



CRIMPFLEX™ connectors
FFC cables Jumpers
Crimping presses...



Domes & components for man/machine interface

Switch'air™ domes
Dome arrays
LEDs for membrane switches
Adhesive spacers...



WHY MAKE NICOMATIC your key partner?

Short lead time & outstanding product quality maximize customer satisfaction. Nicomatic have a range of services designed to provide:

- > time saving
- > responsiveness
- > reliable answer

View in detail under:
www.nicomatic.com/direct.htm



Date of issue: January 2014
Catalogue reference : C.MICROF.2500/GB

NICOMATIC maintains a policy of ongoing development and improvement. It therefore reserves the right to change design, dimensions and specifications without notice. All information stated inside this catalogue is not contractual and subject to change (eg. standard connector configurations).

Copyright 2014 by NICOMATIC (all rights reserved).

Sales & Online Services

- > Short lead-time: one week premium option
- > My Nicomatic free membership: get 2D/3D drawings for in < 48 hours - no charge !
- > Products trial: Fast sampling and prototyping
- > Free sample kits: ask your usual Nicomatic sales contact

Support Services

- > customsolution@nicomatic.fr
Specific product design - reply in under 5 days, technical & sales support for all your custom designs: feasibility study, quote, drawing, engineer to engineer direct contact...)
- > technic@nicomatic.com
Fast & reliable technical support - all standard product ranges answer < 24 hours. Technical FAQ also available online.
- > quality@nicomatic.fr
Dedicated quality service - set up to direct all quality requests, eg. Material certificates, plating, conformity, customer claims...

FOR MORE INFORMATION ABOUT THE NICOMATIC
DISTRIBUTION NETWORK, PLEASE VISIT OUR WEB SITE

WWW.NICOMATIC.COM



NICOMATIC - HEADQUARTER

NICOMATIC SA

173, rue des Fougères - Zone Industrielle les Bracots

74890 Bons-en-Chablais

FRANCE

Tel. +33 (0)4 50 36 13 85 - Fax +33 (0)4 50 36 11 33

<http://www.nicomatic.com> - Email : nicomatic@nicomatic.fr



NICOMATIC - SUBSIDIARIES

NICOMATIC CHINA

L402 Hi-Tech Green Base, No6,

Hi-tech Development 6 Street

HuaYuan Block, XiQing District

Tianjin - CHINA

Tél. +86 22 238 58 835

Fax +86 22 238 88 060

Mail: sales@nicomatic.cn

NICOMATIC INDIA

#21, 5th Floor, SK Vista, Rustam Bagh,

Old Airport Road,

Behind Manipal Hospital,

Bangalore - 560017 - INDIA

Tel. +91 80 421 315 75

Fax +91 80 421 315 74

Email : india@nicomatic.com

NICOMATIC GERMANY

Josephspitalstrasse 15

München, Bayern 80331

DEUTSCHLAND

Tel: +49 895 199 76 32

Fax: +49 895 199 76 82

Email: germany@nicomatic.com

NICOMATIC NORTH AMERICA

USA - CANADA - MEXICO

165 Veterans Way, Unit 200

Warminster, PA 18974 - USA

Tel. +1 (215) 444-9580

Fax +1 (215) 444-9581

Email : sales@nicomatic.com

NICOMATIC SOUTH AMERICA

Av. Brigadeiro Faria Lima

2.639 - cj. 10a Jardim Paulistano

01452-000 São Paulo - BRAZIL

Tel. +55 11 3815 4411

Fax +55 11 3814 6133

Email : nicomatic@nicomatic.com.br

NICOMATIC LTD

Abbey House, Wellington Way

Brooklands Business Park Weybridge,

KT13 0TT - UNITED KINGDOM

Tél. : +44 1932 26 8257

Fax: +44 1932 26 8500

Mail : uksales@nicomatic.com



MANUFACTURER & DESIGNER OF INTERCONNECT SOLUTIONS

