



CREATIVE
INTERCONNECT
SOLUTIONS

CMM

MIL55302

SPECIFICATIONS

MODULAR CONNECTOR

SUB-D TYPE



HARSH
ENVIRONMENT

2mm
pitch

CMM Series Micro-connectors

NICOMATIC specializes in the design, development and manufacture of electronic connectors.

The **CMM MICRO CONNECTOR** interconnection system is a 2mm pitch connector (square matrix) with proven **high reliability under the most extreme environmental conditions:**

- Flexible architecture: "Board to Board", "Board toWire" and "Wire toWire" configurations
- Modular and hybrid design: mixed layout full option with Low Frequency – LF (over 5 Amp) – and High Frequency – HF - (over 11 GHz) and High Power - HP - (over 30 Amp)
- High reliability contact design & High performance under harsh use conditions
- Secure: integral jacking mechanism or locking by spring latch

The CMM MICRO CONNECTOR is a complete and standard range of connectors:

- CMM 100 series: 1 row – from 2 to 25 LF contacts
- CMM 200 series: 2 rows – from 4 to 50 LF contacts
- CMM 220 series: 2 rows – from 4 to 60 LF contacts, or up to 15 HF or HP contacts (series 30)
- CMM 320 series: 3 rows – from 6 to 120 LF contacts, or up to 20 HF or HP contacts (series 30)
- CMM 340 series: 3 rows – min. 6 LF contacts and up to 64 HF or HP contacts (series 22)

Direct benefits:

- Space saving: - 40% in surface and over - 60% in volume
- Weight saving: - 20 to - 50% vs. usual solution for same functionalities
- Reduce number of connectors: 2 or 3 connectors in 1 thanks to a modular concept
- Cost effective solution: custom connector assembly from standard components
- Proven success stories in on-board electronic systems
- Full traceability with EN9100:2003
- **Short lead time: 1 week express service**, Premium service, Fast sampling and prototyping
- **Online services** (www.nicomatic.com): Free use of My Niomatic service (2D & 3D drawings), automatic part number & mating-half configurators, technical support .

The CMM has been developed for the aerospace, avionics, instrumentation & control, defence and transportation markets, with applications that include IFES, HUDs, flight controls, FADEC units, radars, missiles, electro-optical sighting systems, satellites, mobile radios, power supplies, UAVs and engine controls. It is also used in a growing number of medical, and telecom applications.



Dimension Tables

CMM 100/200 SERIES in male & female styles for LF contacts

CMM SERIES 100 & 200 Male	LF contacts number series 100	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
	LF contacts number series 200	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	
	Length in mm	A	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
	Length in mm (Strap)	B	6,7	8,7	10,7	12,7	14,7	16,7	18,7	20,7	22,7	24,7	26,7	28,7	30,7	32,7	34,7	36,7	38,7	40,7	42,7	44,7	46,7	48,7	50,7	52,7
	Length in mm	C	7,4	9,4	11,4	13,4	15,4	17,4	19,4	21,4	23,4	25,4	27,4	29,4	31,4	33,4	35,4	37,4	39,4	41,4	43,4	45,4	47,4	49,4	51,4	53,4
	Length C with Latches fitted		7,8	9,8	11,8	13,8	15,8	17,8	19,8	21,8	23,8	25,8	27,8	29,8	31,8	33,8	35,8	37,8	39,8	41,8	43,8	45,8	47,8	49,8	51,8	53,8

CMM SERIES 100 & 200 Female	LF contacts number series 100	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
	LF contacts number series 200	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	
	Length in mm	A	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
	Length in mm	B	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53

LF CONTACTS REFERENCE MARK NUMBER FOR CMM SERIES 200 Male & Female	D	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
	E	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	F	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	G	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50

CMM 220 SERIES in male & female styles for LF contacts

CMM SERIES 220 Male & Female	LF contacts number	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	
	Distance between axis	A	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
		B	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
	Length in mm	C	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
	LF contacts reference mark number	D	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
		E	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		F	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
G		4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	

CMM 220 SERIES in male & female styles for HF/HP contacts

CMM 220 Male & Female Special contacts only	Special contacts number		2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Distance between axis	A	4	8	12	16	20	24	28	32	36	40	44	48	52	56
		B	13	17	21	25	29	33	37	41	45	49	53	57	61	65
	Length in mm		C	18	22	26	30	34	38	42	46	50	54	58	62	66

CMM 320 SERIES in male & female styles for LF contacts

CMM SERIES 320 Male & Female	LF contacts number	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120	
	Distance between axis	A	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78
		B	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
	Length in mm	C	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93
	LF contacts reference mark number	D	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
		E	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		F	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
		G	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
		H	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81
J		6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111	114	117	120	

CMM 340 SERIES in male & female styles for HF/HP contacts

CMM 340 Male & Female Special contacts only	Special contacts number	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	
	Distance between axis	A	2,5	5	7,5	10	12,5	15	17,5	20	22,5	25	27,5	30	32,5	35	37,5	40	42,5	45	47,5	50	52,5	55	57,5	60	62,5	65	67,5	70	72,5	75	77,5
	B	12,5	15	17,5	20	22,5	25	27,5	30	32,5	35	37,5	40	42,5	45	47,5	50	52,5	55	57,5	60	62,5	65	67,5	70	72,5	75	77,5	80	82,5	85	87,5	
	Length in mm	C	18,5	21	23,5	26	28,5	31	33,5	36	38,5	41	43,5	46	48,5	51	53,5	56	58,5	61	63,5	66	68,5	71	73,5	76	78,5	81	83,5	86	88,5	91	93,5

CMM Specifications (with LF contacts)

MATERIALS

INSULATOR: Special PPS (Polyphenylene Sulfide Fiberglass filled thermoplastic) UL 94-V0

- Radiation resistance
- No humidity absorption
- Oxygen free

Note : PPS characteristics are recognized for space applications

P.C. LF CONTACTS :

Male:

Tail : copper alloy / Ni + Au flash 0,1μ
Contact area : copper alloy / Ni + Au > 1μ

Female:

Body : copper alloy / Ni + Au 0,2 μ
Socket : beryllium copper / Ni + Au > 1,25μ

CRIMP LF CONTACTS :

Male:

Body : copper alloy / Ni + Au > 1μ

Female:

Body : copper alloy / Ni + Au > 0,2 μ
Socket : beryllium copper / Ni + Au > 1,25μ

FIXING HARDWARE:

- Jackscrew: Stainless steel.
- Latch : Beryllium copper/plated nickel (CMM 100/200 series only)

ELECTRICAL

- | | |
|----------------------------------|--------------------------------------|
| • All contacts | 3 A max. @ 25°C
2.2 A max. @ 85°C |
| • Working voltage (sea level) | Tested at 800 V DC |
| • Proof voltage | Tested at 1 200 V DC |
| • Contact resistance (initially) | max. 10 mΩ |
| • Insulation resistance | 1 000 MΩ min. |

MECHANICAL

- | | |
|--|-----------------------------------|
| • Mechanical operations | Up to 2500 cycles |
| • Contact insertion and withdrawal force | 2 N max. / 0.2 N min. per contact |
| • Contact retention in insulator | 10 N min. |
| • Contact replacement in insulator | 1-3 cycles (Crimp contacts only) |

ENVIRONMENTAL

- | | |
|-----------------------|---|
| • Temperature cycling | From - 60°C to + 260°C
Reflow solder process compatible (+260°C) |
| • Vibration severity | 0.75 mm, 10 g RMS 6 hours long random with superimposed sinusoid. No intermittencies measured when using an H.S.L.I (High Speed Logic Interrupt) detector with a trip threshold of 2 ns.
MIL-DTL-55302F Test Condition III [147.1 m/s ² (15 gn) peak] |
| • Shock severity | 100 g for 6 ms |
| • Solvent resistance | |

Note :

The CMM micro-connectors are designed to meet or exceed the relevant electrical and environmental performances described in MIL-DTL-55302F & BS-9525-F0033 standards.

HF / HP contacts specifications

MATERIALS

• Spring loaded parts	Be/Cu gold plated
• Other metal parts	Copper alloy
• Insulator	PTFE (HF)
• Retaining clip	Be/Cu Ni plated

MECHANICAL

• Mechanical operations	Up to 500 cycles
• Insertion force	From 0.60 to 5 N per contact
• Withdrawal force	From 0.50 to 2 N per contact
• Secure overlapping	1.30 mm
• Contact replacement in insulator	50 cycles for HF / HP 30 series (5 cycles for HF / HP 22 series)

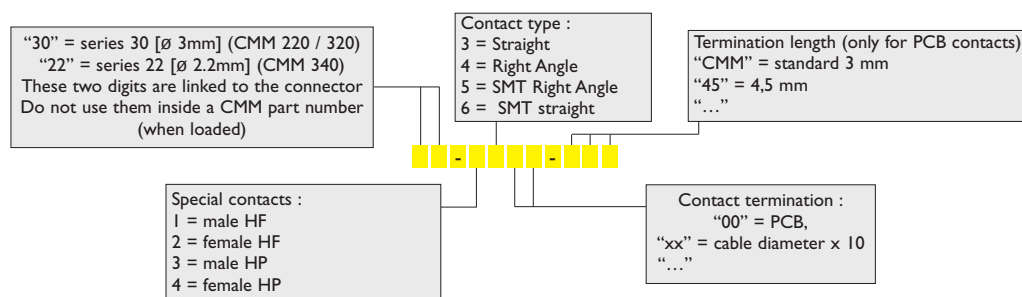
ELECTRICAL

High Power (HP) Contact	Series 30	Series 22	High Frequency (HF) Contact
Intensity per contact	35A	20A	Impedance 50 Ω / 75 Ω
Intensity per connector	20A	10A	Insulation resistance 10 ⁶ M Ω
Dielectric Voltage (sea level)			Insulation between 2 contacts -75 dB (depending on cable)
Withstanding voltage Rated voltage	1500VRMS 500 VRMS	900VRMS 300 VRMS	Withstanding voltage (sea level) 1000 VRMS
High Altitude 70000ft : Withstanding voltage Rated voltage	360 VRMS 120 VRMS	300 VRMS 100 VRMS	Rated voltage 80 v AC / 500 mA
Contact resistance max. 3 m Ω			Contacts HF on cable Frequency range up to
			Series 30 20 GHz
			Serie 22 6 GHz

ENVIRONMENTAL

• Temperature cycling	From -60°C to +260°C
• Salt spray test	96 hrs *
• Humidity test	56 days @ 90% humidity

HF / HP CONTACTS PART NUMBERING



Important notice:

According to the routines test other than MIL our technical features for CMM Micro-connectors reach a higher result. For more information, please feel in the contact form on the website.

For example:

- Mechanical operations: up to 5 000 cycles
- High temperature test: 1 000H at 250°C
- Application with LVDS signal @ 400 MHz, impedance 100 Ohm
- High speed: USB, 1Gb/s Ethernet...

* without fixings

LF : low frequency contacts

PRESENTATION

Male						
Female						
	Straight PCB Type Y	90° PCB Type V	Straight SMT Type T	90° SMT Type R	Crimp Type S - C	Straight PCB Type PF Press fit

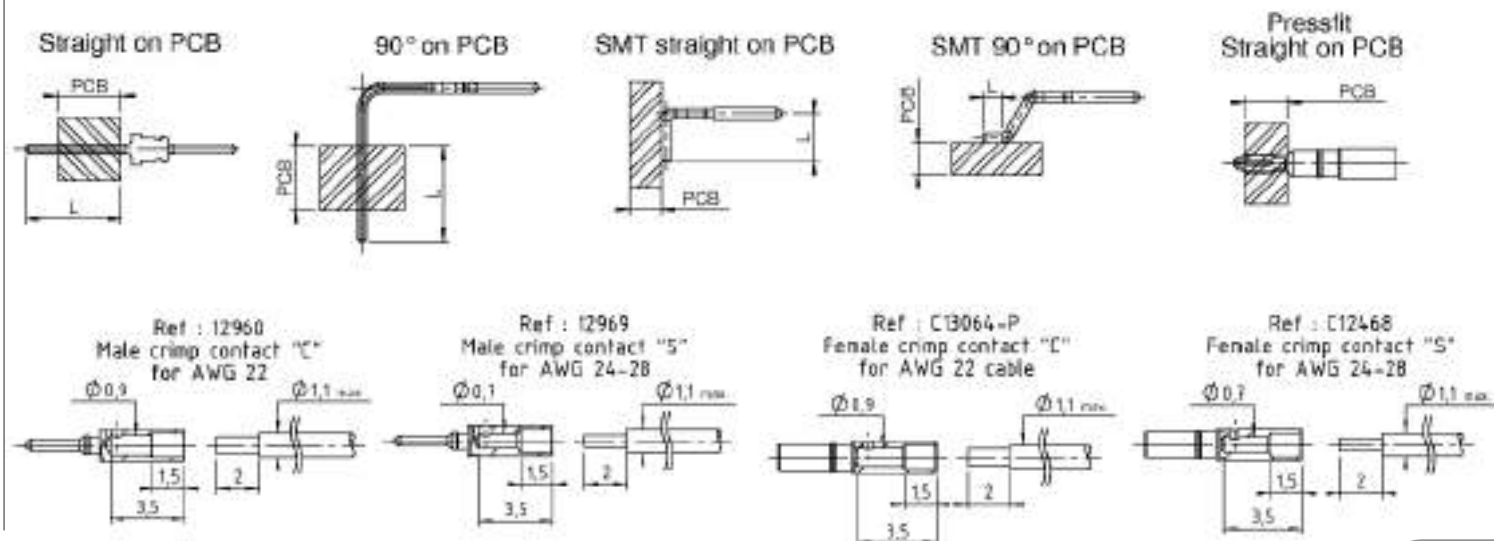
INFORMATION TABLE

CMM RANGE		USE												
		STRAIGHT ON PCB						90° ON PCB		STRAIGHT SMT		90° SMT	CRIMP	
100/200	Male	Y L=3,0	YL L=4,5	YM L=5,1	YX L=9,1			V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9	C Gauge 22	S Gauge 24-28
	Female	Y L=3,0	YL L=4,5			YC L=1,2	PF Press fit	V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9	C Gauge 22	S Gauge 24-28
220	Male	Y L=3,0	YL L=4,5	YM L=5,1	YX L=9,1			V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9	C Gauge 22	S Gauge 24-28
	Female	Y L=3,0	YL L=4,5			YC L=1,2	PF Press fit	V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9	C Gauge 22	S Gauge 24-28
320	Male	Y L=3,0	YL L=4,5	YM L=5,1	YX L=9,1			V L=3,0	VL L=4,5			R L=0,9	C Gauge 22	S Gauge 24-28
	Female	Y L=3,0	YL L=4,5				PF Press fit	V L=3,0	VL L=4,5				C Gauge 22	S Gauge 24-28
340	Male	Y L=3,0	YL L=4,5	YM L=5,1	YX L=9,1			V L=3,0	VL L=4,5				C Gauge 22	S Gauge 24-28
	Female	Y L=3,0	YL L=4,5				PF Press fit	V L=3,0	VL L=4,5				C Gauge 22	S Gauge 24-28

L=6,50 / 8,00 / 10,50 / 12,00 / 14,50 / 16,00 mm upon request (only for straight on PCB male contacts)

Standard contact

Any other type of contact upon request only



HF : high frequency contacts (series 30)

PRESENTATION

Male								
Female								
	Straight PCB	90° PCB	Straight SMT	90° SMT Card edge	Straight Crimp	90° Crimp	Straight solder	90° solder
	Type D				Type E			

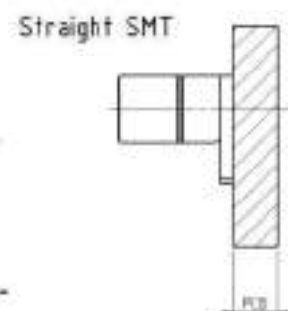
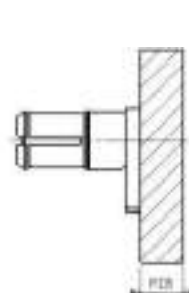
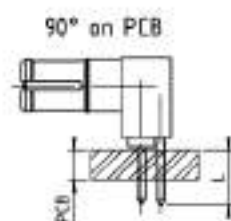
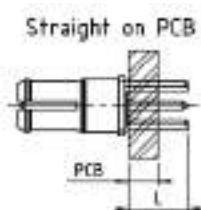
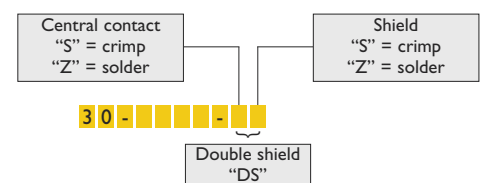
INFORMATION TABLE

CMM RANGE		TYPICAL USE											
		TYPE OF CONTACTS TO BE USED IN THE CMM CONNECTOR WITH CAVITIES FOR HF/HP CONTACTS ONLY											
		TYPE D FOR SPECIAL CONTACTS ON PCB (Eg.221D00F22-00 nbr of special contact-1300CMM)								TYPE E FOR SPECIAL CONTACTS ON CABLE			
		Straight on PCB		90° on PCB		Straight SMT		90° SMT Card edge		Straight Crimp	90° Crimp	Straight solder	90° solder
100/200	Male												
	Female												
220	Male	30-1300-CMM L=3,0	30-1300-45 L=4,5	30-1400-CMM L=3,0	30-1400-45 L=4,5	30-1600	30-1500-CMM no LF contact	30-1500-12		30-13XX-SS 30-13XX-DS xx=cable type	30-14XX-ZS 30-14XX-DS xx=cable type	30-13XX-ZZ xx=cable type	30-14XX-ZZ xx=cable type
	Female	30-2300-CMM L=3,0	30-2300-45 L=4,5	30-2400-CMM L=3,0	30-2400-45 L=4,5	30-2600				30-23XX-SS 30-23XX-DS xx=cable type	30-24XX-ZS 30-24XX-DS xx=cable type	30-23XX-ZZ xx=cable type	30-24XX-ZZ xx=cable type
320	Male	30-1300-CMM L=3,0	30-1300-45 L=4,5	30-1400-CMM L=3,0	30-1400-45 L=4,5			30-1500-12		30-13XX-SS 30-13XX-DS xx=cable type	30-14XX-ZS 30-14XX-DS xx=cable type	30-13XX-ZZ xx=cable type	30-14XX-ZZ xx=cable type
	Female	30-2300-12 L=3,0	30-2300-14 L=4,5	30-2400-CMM L=3,0	30-2400-45 L=4,5					30-23XX-SS 30-23XX-DS xx=cable type	30-24XX-ZS 30-24XX-DS xx=cable type	30-23XX-ZZ xx=cable type	30-24XX-ZZ xx=cable type
340	Male												
	Female												

Standard contact
Any other type of contact upon request only

XX = 12, 20, 24, 26
Eg. 24 = cable Ø 2,4
XX = 20 or 26 for DS cable

XX = 47, 85
Eg. 47 for UT47 cable



HP : high power contacts (series 30)

PRESENTATION

Male									
Female									
	Straight PCB	90° PCB	Straight SMT	90° SMT	90° SMT Card edge	Straight Crimp	90° Crimp	Straight solder	90° solder
	Type D					Type E			

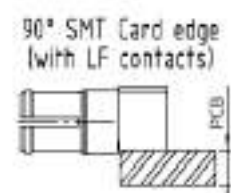
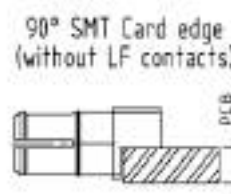
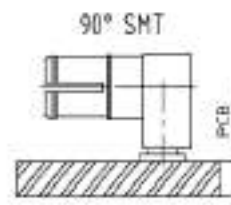
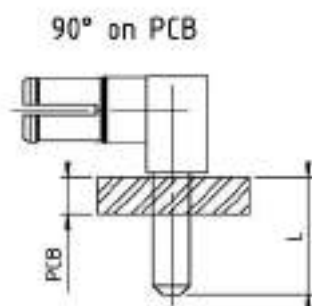
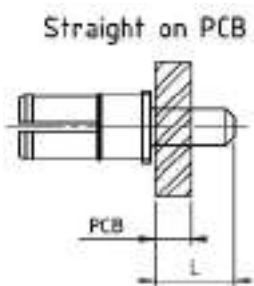
INFORMATION TABLE

CMM RANGE		TYPICAL USE											
		TYPE OF CONTACTS TO BE USED IN THE CMM CONNECTOR WITH CAVITIES FOR HF/HP CONTACTS ONLY											
		TYPE D FOR SPECIAL CONTACTS ON PCB								TYPE E FOR SPECIAL CONTACTS ON CABLE			
		Straight on PCB		90° on PCB		Straight SMT	90° SMT	90° SMT Card edge		Straight Crimp	90° Crimp	Straight solder	90° solder
100/200	Male												
	Female												
220	Male	30-3300-CMM L=3,0	30-3300-45 L=4,5	30-3400-CMM L=3,0	30-3400-45 L=4,5	30-3600	30-3500	30-3500-CMM no LF contact	30-3500-12	30-33XX		30-33XX	
	Female	30-4300-CMM L=3,0	30-4300-45 L=4,5	30-4400-CMM L=3,0	30-4400-45 L=4,5	30-4600	30-4500			30-43XX		30-43XX	
320	Male	30-3300-CMM L=3,0	30-3300-45 L=4,5	30-3400-CMM L=3,0	30-3400-45 L=4,5				30-3500-12	30-33XX		30-33XX	
	Female	30-4300-12 L=3,0	30-4300-14 L=4,5	30-4400-CMM L=3,0	30-4400-45 L=4,5					30-43XX		30-43XX	
340	Male												
	Female												

Standard contact
Any other type of contact upon request only

XX = 05, 08...
Eg. 08 for 8A

Please refer
to page 94



HF : high frequency contacts (series 22)

PRESENTATION

Male								
Female								
	Straight PCB	90° PCB	Straight SMT	90° SMT	Straight Crimp	90° Crimp	Straight solder	90° solder
	Type D				Type E			

INFORMATION TABLE

CMM RANGE		TYPICAL USE							
		TYPE OF CONTACTS TO BE USED IN THE CMM CONNECTOR WITH CAVITIES FOR HF/HP CONTACTS ONLY							
		TYPE D FOR SPECIAL CONTACTS ON PCB				TYPE E FOR SPECIAL CONTACTS ON CABLE			
		Straight on PCB	90° on PCB	Straight SMT	90° SMT	Straight Crimp	90° Crimp	Straight solder	90° solder
100/200	Male								
	Female								
220	Male								
	Female								
320	Male								
	Female								
340	Male	22-1300-12 L=3,0	22-1300-14 L=4,5	22-1400-12* 22-1400-22** L=3,0	22-1400-14* 22-1400-24** L=4,5	22-1312-ZS		22-1320-ZZ	
	Female	22-2300-12 L=3,0	22-2300-14 L=4,5	22-2400-12* 22-2400-22** L=3,0	22-2400-14* 22-2400-24** L=4,5	22-2312-ZS		22-2320-ZZ	

Standard contact

Any other type of contact upon request only

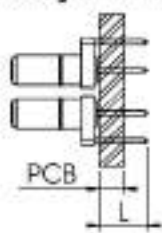
12 = cable Ø
1,2

20 = cable
Ø 2,0

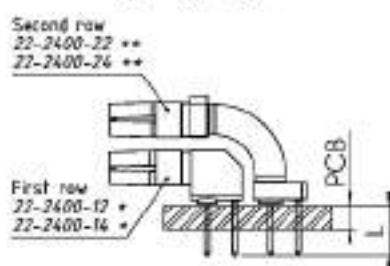
* First row : 22-1400-12 / 22-1400-14 / 22-2400-12 / 22-2400-14

** Second row : 22-1400-22 / 22-1400-24 / 22-2400-22 / 22-2400-24

Straight on PCB



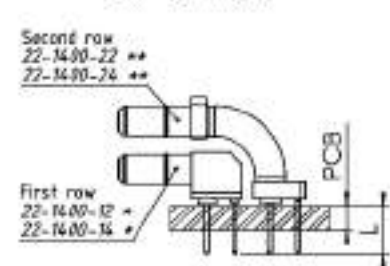
90° on PCB



When a two-row connector mixes a 22-2400-12 and a 22-2400-22 contact, the P/N of the HF contact changes to 2400-02.

When a two-row connector mixes a 22-2400-14 and a 22-2400-24 contact, the P/N of the HF contact changes to 2400-04.

90° on PCB



When a two-row connector mixes a 22-1400-12 and a 22-1400-22 contact, the P/N of the HF contact changes to 1400-02.

When a two-row connector mixes a 22-1400-14 and a 22-1400-24 contact, the P/N of the HF contact changes to 1400-04.

HP : high power contacts (series 22)

PRESENTATION

	Type D				Type E			
	Straight PCB	90° PCB	Straight SMT	90° SMT	Straight Crimp	90° Crimp	Straight solder	90° solder
Male								
Female								

INFORMATION TABLE

CMM RANGE		TYPICAL USE							
		TYPE OF CONTACTS TO BE USED IN THE CMM CONNECTOR WITH CAVITIES FOR HF/HP CONTACTS ONLY							
		TYPE D FOR SPECIAL CONTACTS ON PCB				TYPE E FOR SPECIAL CONTACTS ON CABLE			
		Straight on PCB	90° on PCB	Straight SMT	90° SMT	Straight Crimp	90° Crimp	Straight solder	90° solder
100/200	Male								
	Female								
220	Male								
	Female								
320	Male								
	Female								
340	Male	22-3300-12 L=3,0	22-3300-14 L=4,5	22-3400-12* 22-3400-22** L=3,0	22-3400-14* 22-3400-24** L=4,5	22-33XX		22-33XX	
	Female	22-4300-12 L=3,0	22-4300-14 L=4,5	22-4400-12* 22-4400-22** L=3,0	22-4400-14* 22-4400-24** L=4,5	22-43XX		22-43XX	

Standard contact

Any other type of contact upon request only

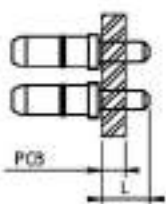
XX = 05, 08, 10
10 = 10A

Please refer
to page 102

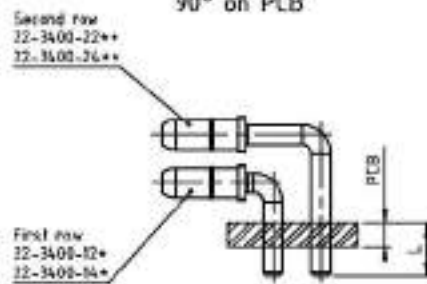
* First row : 22-3400-12 / 22-3400-14 / 22-4400-12 / 22-4400-14

** Second row : 22-3400-22 / 22-3400-24 / 22-4400-22 / 22-4400-24

Straight on PCB



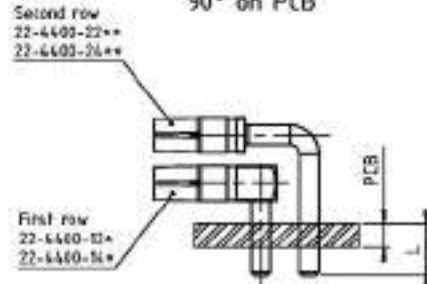
90° on PCB



When a two-row connector mixes a 22-3400-12 and a 22-3400-22 contact, the P/N of the HF contact changes to 3400-02.

When a two-row connector mixes a 22-3400-14 and a 22-3400-24 contact, the P/N of the HF contact changes to 3400-04.

90° on PCB

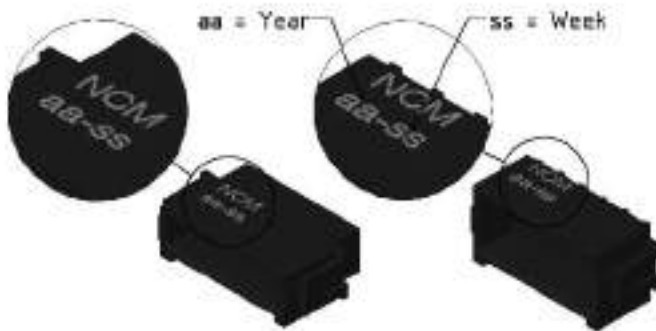


When a two-row connector mixes a 22-4400-12 and a 22-4400-22 contact, the P/N of the HF contact changes to 4400-02.

When a two-row connector mixes a 22-4400-14 and a 22-4400-24 contact, the P/N of the HF contact changes to 4400-04.

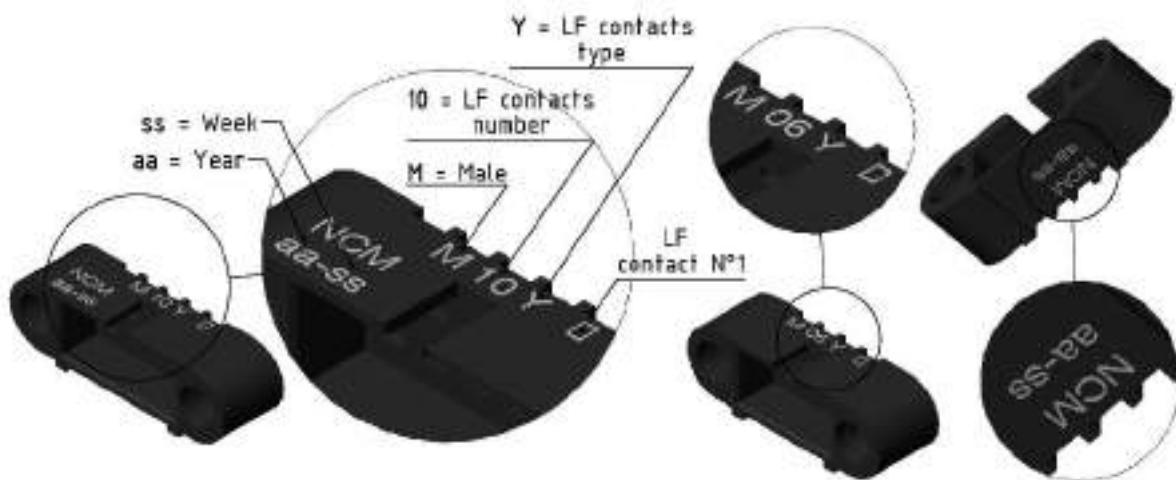
Male housing marking

CMM 100/200



Marking : NCM (Nicomatic) + date code (Lot number)

CMM 220



Marking 1 : NCM (Nicomatic) + date code (Lot number)
(LF contacts only) Connector P/N
LF contact number I

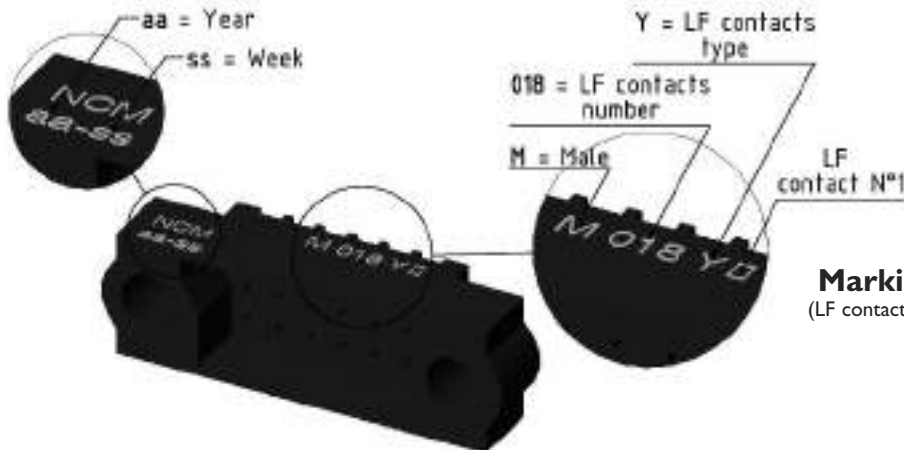
Marking on two faces if the number of LF contacts is < to 10.

Marking 2 : NCM (Nicomatic) + date code (Lot number) : CMM 220 mixed layout (LF + HF/HP)
(as for CMM 100/200)

CMM 220 with HF/HP contacts
CMM 220 with 04 LF contacts

Marking LF contacts type : Y-YL-V-VL-R-T-S-C

CMM 320/340



Marking 1 : NCM (Nicomatic)
(LF contacts only) / date code (Lot number)
Connector P/N
LF contact number I

Marking 2 : NCM (Nicomatic) / date code (Lot number) : CMM 320 mixed layout
(as for CMM 100/200)

CMM 320 with HF/HP contacts
CMM 340

Marking LF contacts type : Y-YL-V-VL-S-C

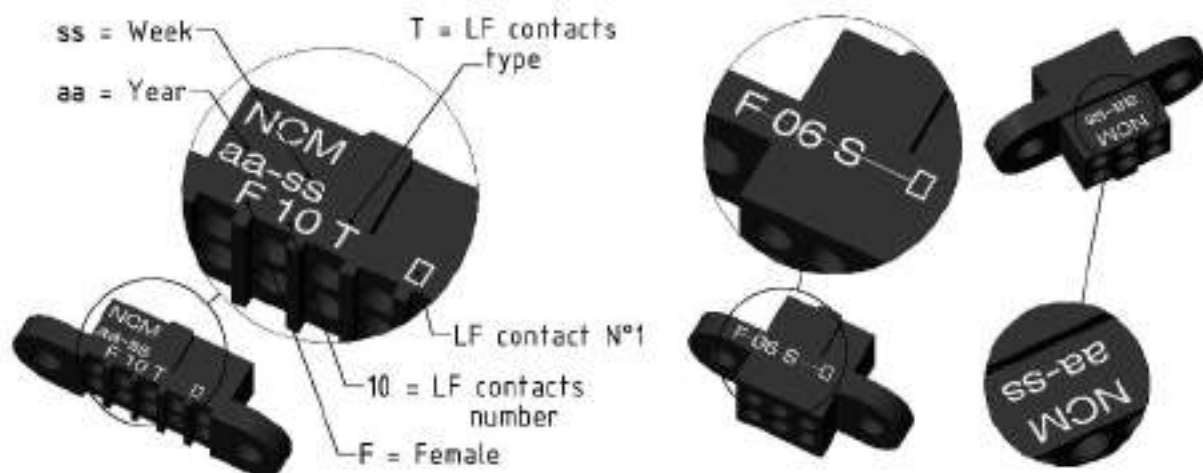
Female housing marking

CMM 100/200



Marking : NCM (Nicomatic) + date code (Lot number)

CMM 220



Marking 1 : NCM (Nicomatic) + date code (Lot number)
(LF contacts only) Connector P/N
LF contact number 1

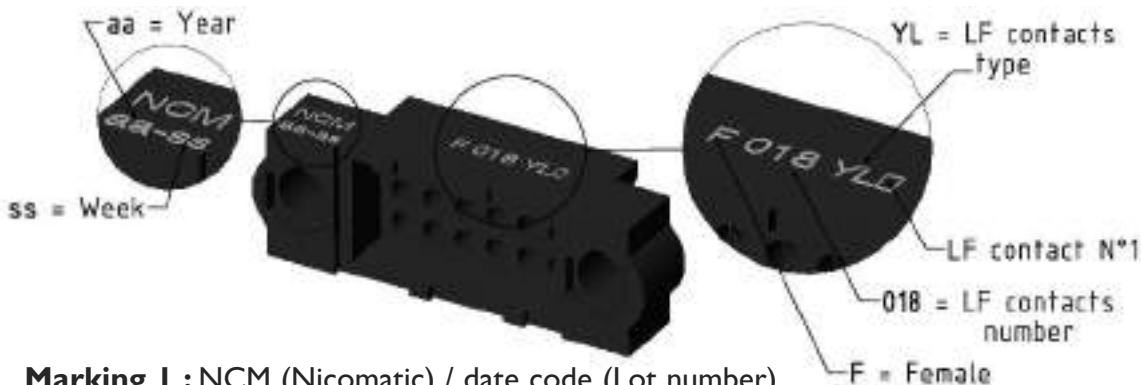
Marking on two faces if the number of LF contacts is < to 10.

Marking 2 : NCM (Nicomatic) + date code (Lot number) : CMM 220 mixed layout (LF + HF/HP)
(as for CMM 100/200)

CMM 220 with HF/HP contacts
CMM 220 with 04 LF contacts

Marking LF contacts type : Y-YL-V-VL-R-T-S-C-PF

CMM 320/340



Marking 1 : NCM (Nicomatic) / date code (Lot number)
(LF contacts only) Connector P/N
LF contact number 1

Marking 2 : NCM (Nicomatic) / date code (Lot number) : CMM 320 mixed layout HF/HP contacts
(as for CMM 100/200)

CMM 320 with HF/HP contacts
CMM 340

Marking LF contacts type : Y-YL-V-VL-S-C-PF

Nicomatic CMM part

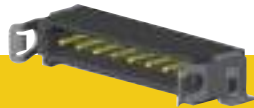
Code with Low Frequency contacts only						Additional code for mixed-layout connector (HF/HP)			
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	Number of HF/HP contacts pin 1 side (LF contact number 1)	Number of HF/HP contacts opposite to LF contact number 1	HF/HP Contact Type		
n n n - y y z z -									
1 row	10	1 male	Refer to table on page 7	02 to 25 (nn)	With Latch page 22	No HF / HP contacts			
		2 female			Without Latch				
2 rows	20	1 male	Refer to table on page 7	04 to 50 (nn)	With Latch page 22				
		2 female			Without Latch				
2 rows	22	1 male	Refer to table on page 7	04 to 60 (nn)	Refer to pages 43 to 46	Depends upon the number of LF contacts If use with shifted central key, please refer to page 38 HF / HP : 15 contacts max. Type of HF/HP contact : please refer to pages 8-9		Coaxmatic™ 30	
		2 female							
3 rows	32	1 male	Refer to table on page 7	006 to 120 (nnn)	Refer to pages 69 to 74	Depends upon the number of LF contacts HF / HP : 20 contacts max. Type of HF/HP contact : please refer to pages 8-9		Coaxmatic™ 30	
		2 female							
3 rows	34	1 male	Refer to table on page 7	Refer to the series 320 (nnn)	Refer to pages 69 to 74	Depends upon the number of LF contacts HF / HP : 64 contacts max. Type of HF/HP contact : please refer to pages 10-11		Coaxmatic™ 22	
		2 female							



Note :

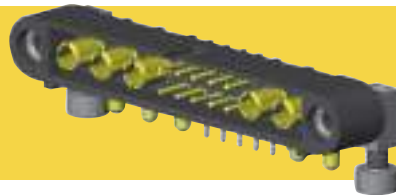
For any configuration outside of this part numbering system, please contact us.

numbering system



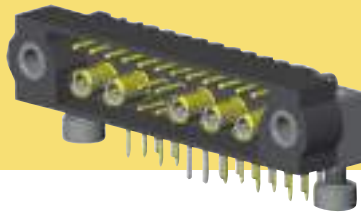
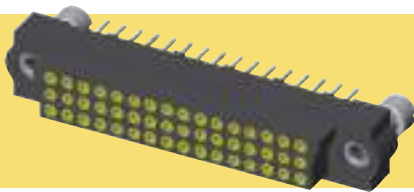
CMM 100/200 Series

p. 17 to 25



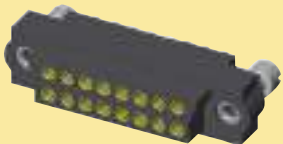
CMM 220 Series

p. 27 to 46



CMM 320 Series

p. 47 to 59



CMM 340 Series

p. 60 to 74

High Frequency and High Power contacts (HF) (HP)

p. 75 to 102

Tools and accessories

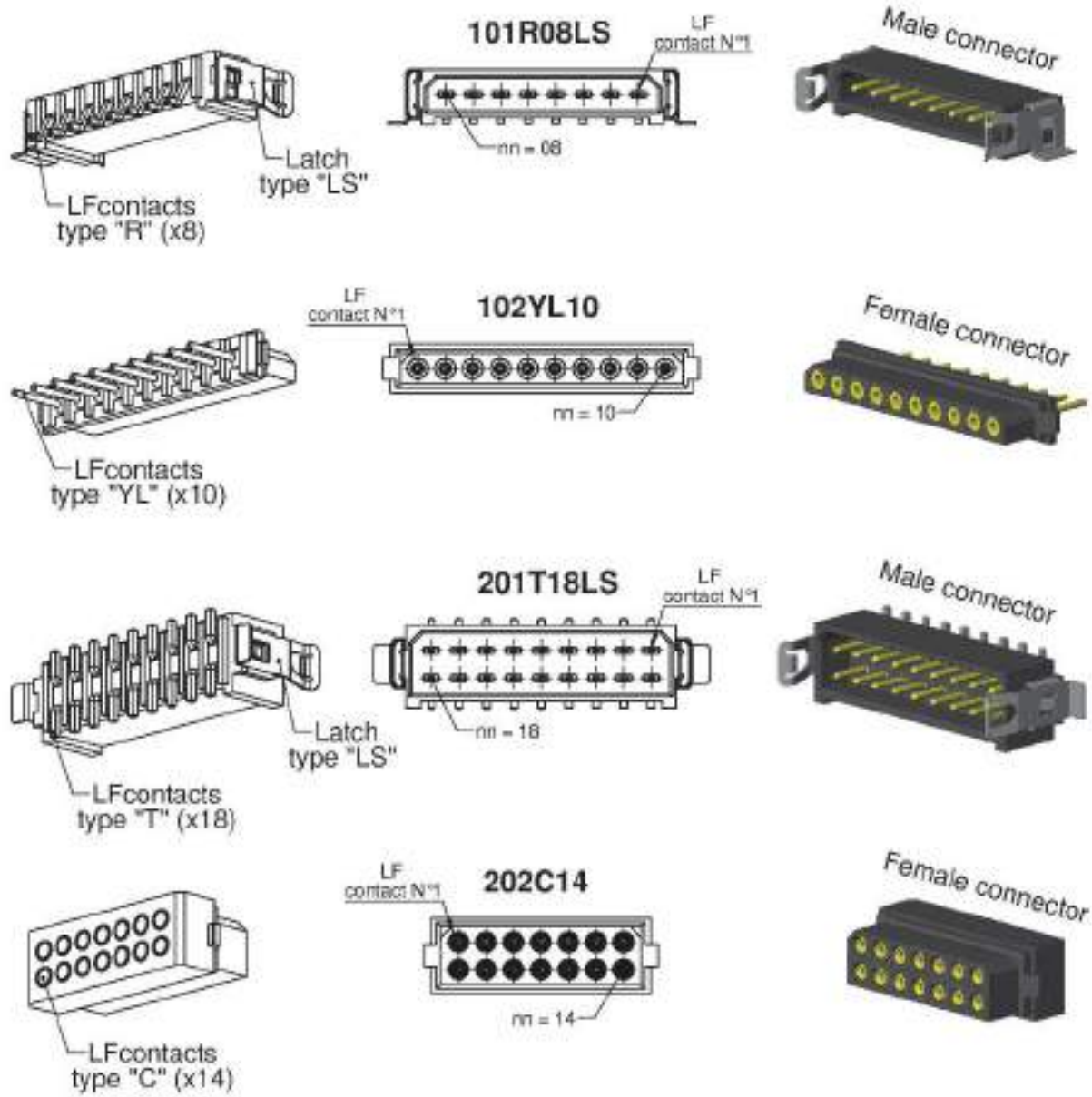
p. 103 to 112

Cable instructions & assembly

p. 113 to 122



CMM 100 / 200



PART NUMBERING REMINDER

Code with Low Frequency contacts only					
	Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware
				n n	
1 row	10	1 male	Refer to table on page 7	02 to 25	With Latch "L", "FL", "LS" page 22
		2 female			Without Latch " "
2 rows	20	1 male	Refer to table on page 7	04 to 50	With Latch "L", "FL", "LS" page 22
		2 female			Without Latch " "

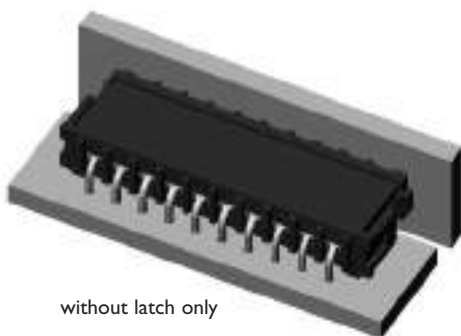
Configuration

CMM 100

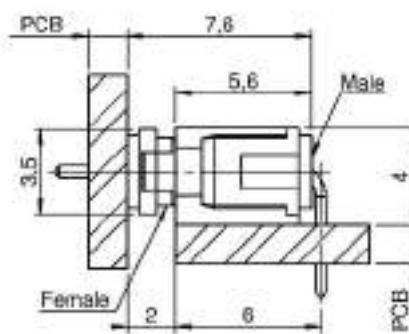
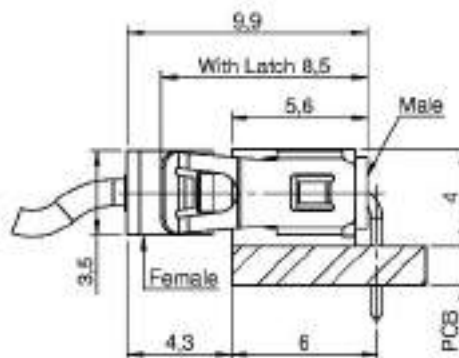
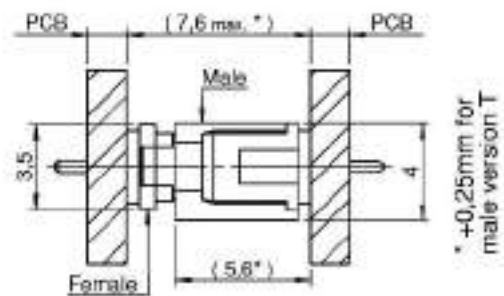
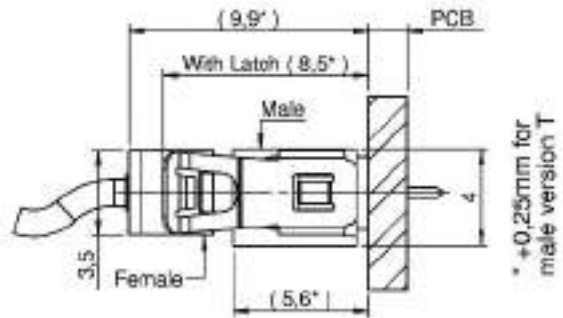
CONNECTOR SPACING



without latch only



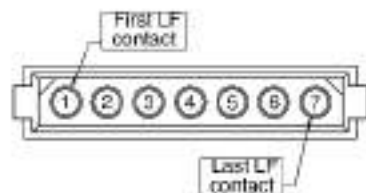
without latch only



CONTACTS POSITIONS

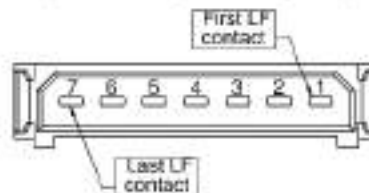


Female connectors
(shown looking onto mating face)



LF contacts min. 02 / max. 25

Male connectors
(shown looking onto mating face)



LF contacts min. 02 / max. 25



Configuration CMM 200

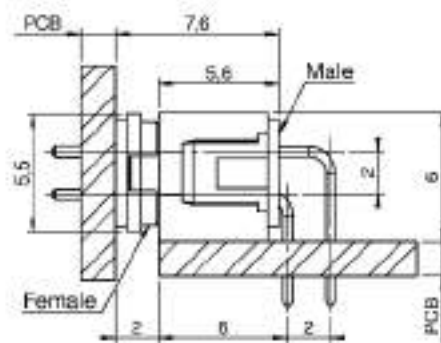
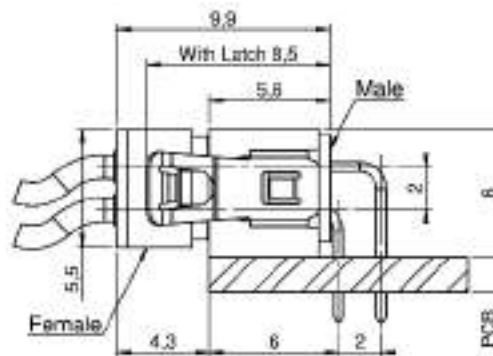
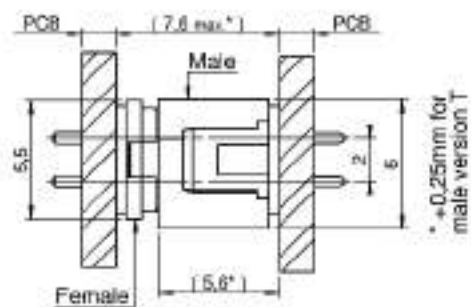
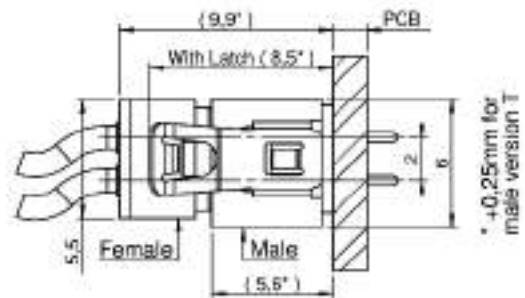
CONNECTOR SPACING



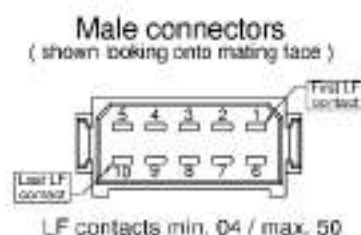
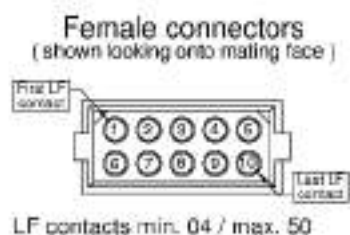
without latch only



without latch only



CONTACTS POSITIONS



CMM 100 / 200 male

STRAIGHT SMT

Part numbering :

"1" = Series 100
"2" = Series 200

Type :T-TL

0 1 n n

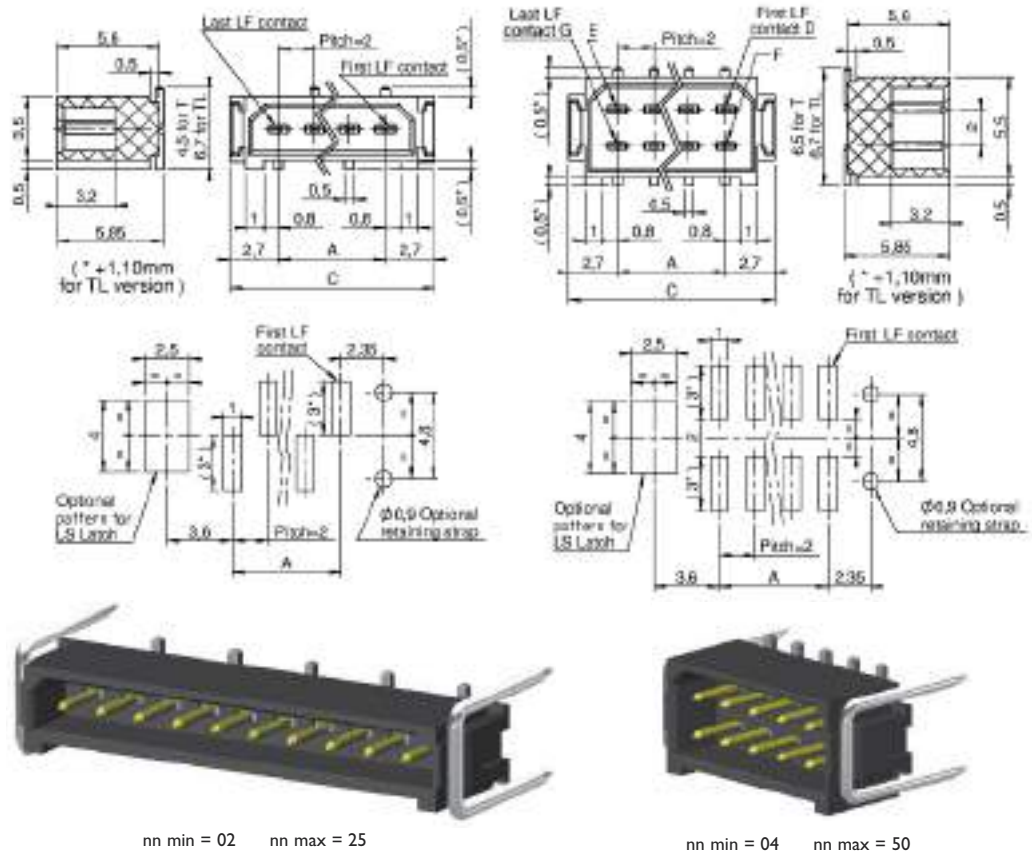
"LS", "L", "FL" = with latch page 22
" " = without latch

nn = number of LF contacts

Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$C = A + 5,4$	$C = A + 5,4$

Refer to dimension table on cover page



90° SMT

Part numbering :

"1" = Series 100
"2" = Series 200

0 1 R n n

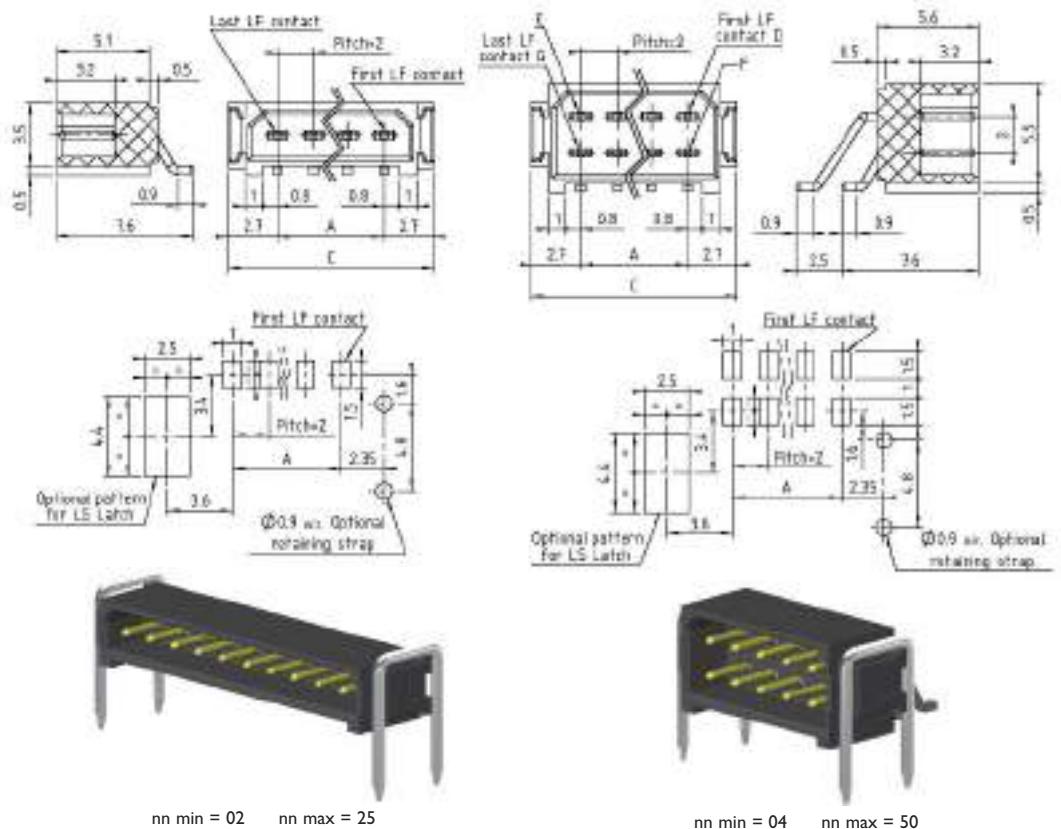
"LS", "L", "FL" = with latch page 22
" " = without latch

nn = number of LF contacts

Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$C = A + 5,4$	$C = A + 5,4$

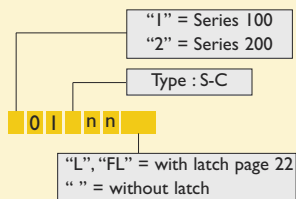
Refer to dimension table on cover page



CMM 100 / 200 male

CRIMP

Part numbering :



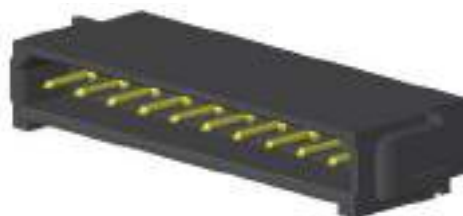
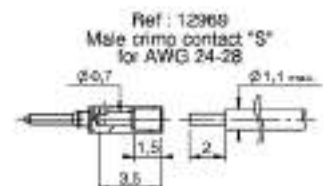
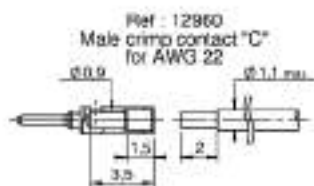
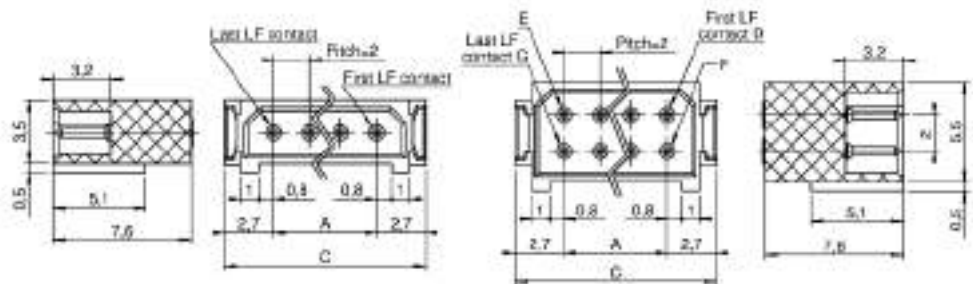
Type	Gauge
S	24-28
C	22

nn = number of LF contacts

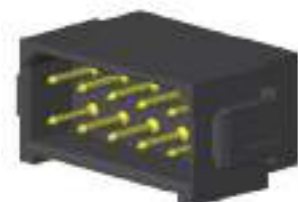
Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$C = A + 5,4$	$C = A + 5,4$

Refer to dimension table on cover page



nn min = 02 nn max = 25



nn min = 04 nn max = 50

RETENTION LATCHES FOR CMM 100 / 200 MALE

Straight latch with locking "L"

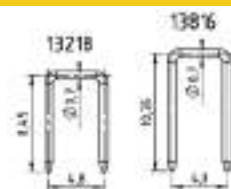
Straight latch without locking "FL"

Latch for CMM connector with T termination style "LS"

Latch for CMM connector with R termination style "LS"

The strain relief straps are supplied with all male CMM 100 / 200 connectors mounted with latches L or FL type except for Y & YL terminations

PCB Thickness	P/N	Termination style			
< 2,5 mm	13218	V	Y	T/TL	R
> 2,5 mm	13816	VL	YL	T/TL	R

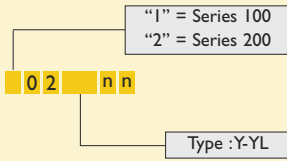


If no strain relief straps with your connector, please order under P/Ns on the left

CMM 100 / 200 female

STRAIGHT PCB

Part numbering :



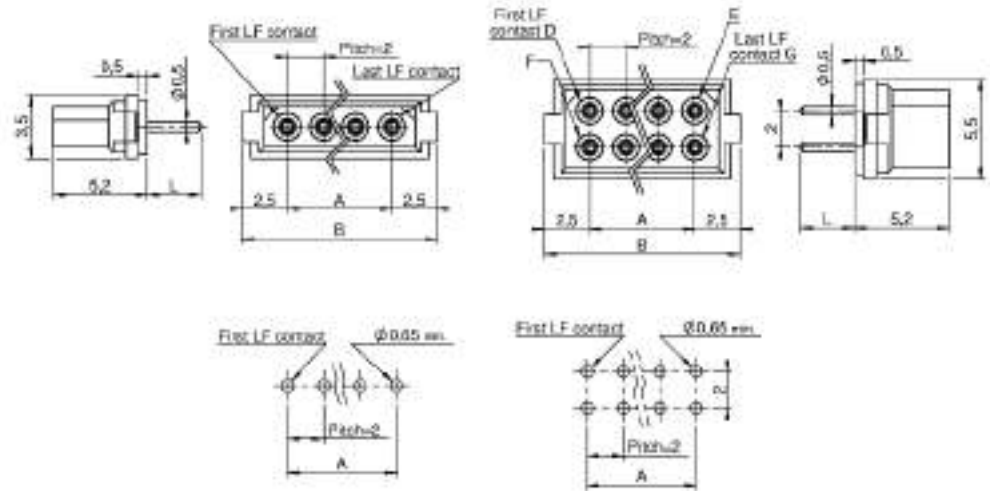
Type	L
Y	3
YL	4,5

nn = number of LF contacts

Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$B = A + 5$	$B = A + 5$

Refer to dimension table on cover page



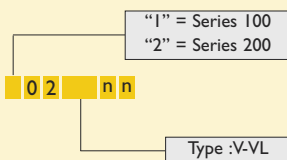
nn min = 02 nn max = 25



nn min = 04 nn max = 50

90° PCB

Part numbering :



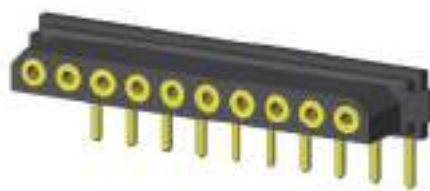
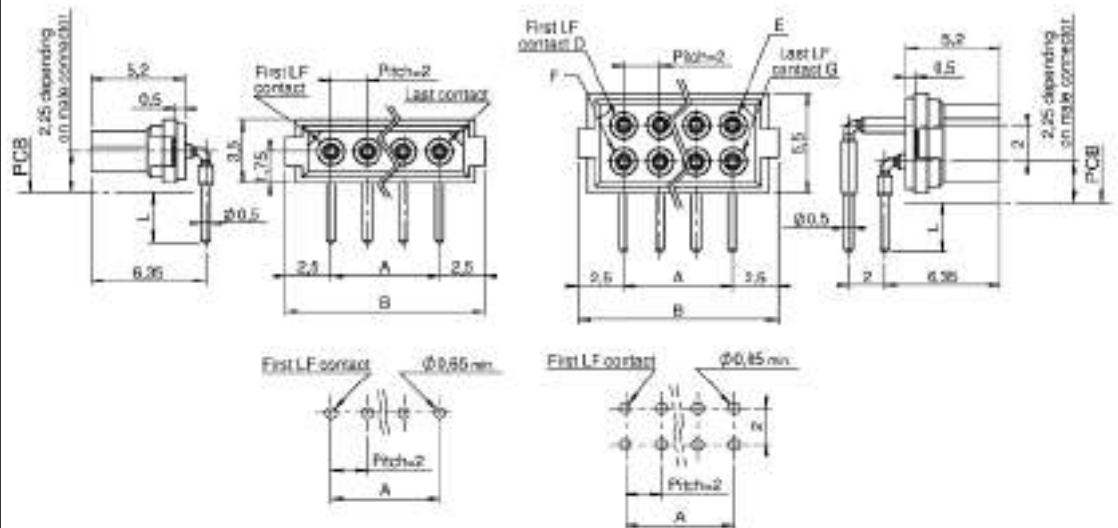
Type	L
V	3
VL	4,5

nn = number of LF contacts

Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$B = A + 5$	$B = A + 5$

Refer to dimension table on cover page



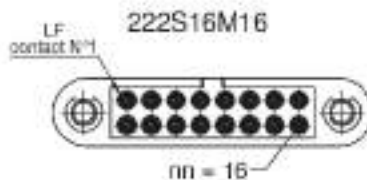
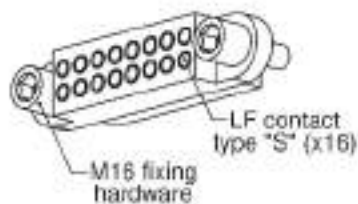
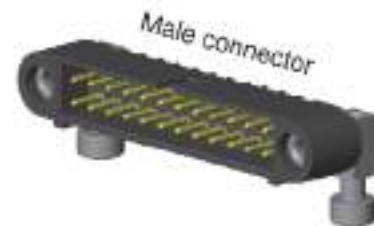
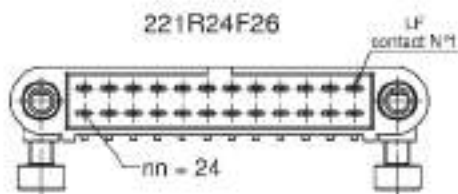
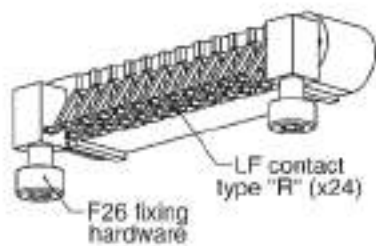
nn min = 02 nn max = 25



nn min = 04 nn max = 50



CMM 220 with LF contacts

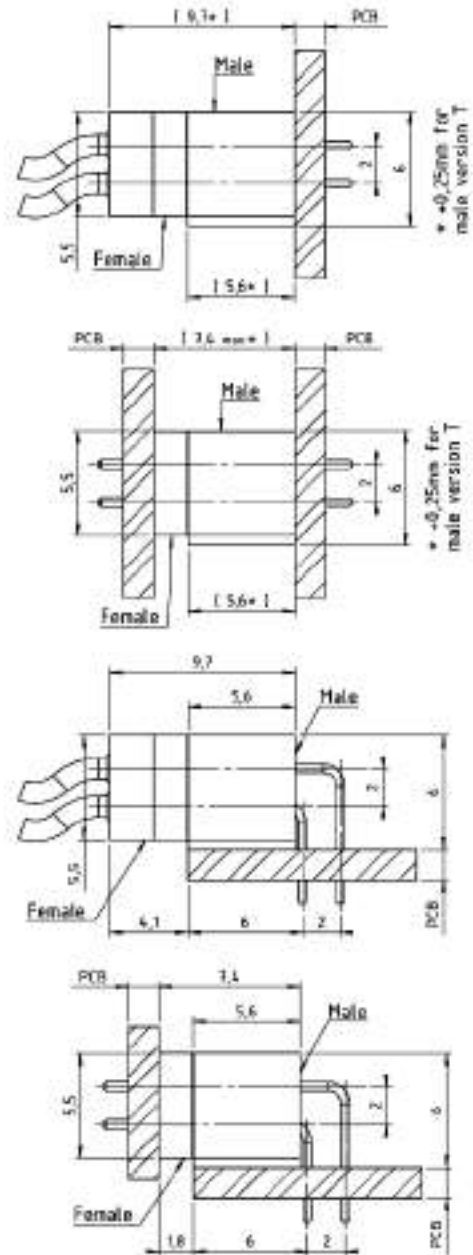
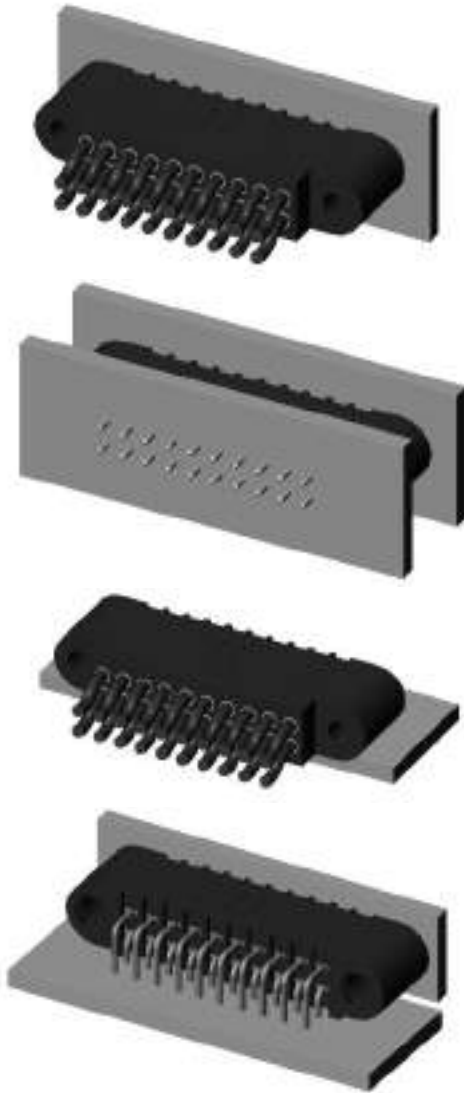


PART NUMBERING REMINDER

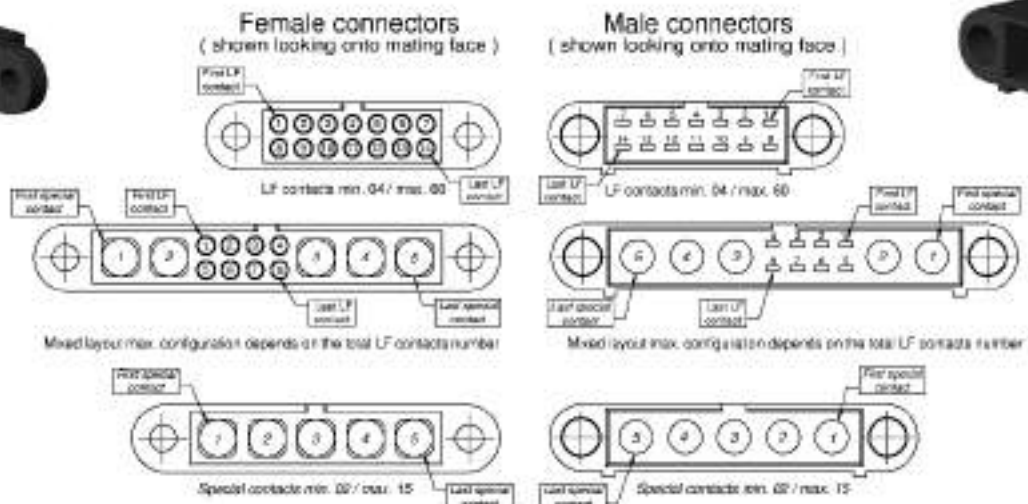
Code with Low Frequency contacts only					
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	
			n n		
2 rows	22	1 male	Refer to table on page 7	04 to 60	Refer to pages 43 to 46
		2 female			

CMM 220 Configuration

CONNECTOR SPACING



CONTACTS POSITIONS



CMM 220 male

STRAIGHT PCB



nn min = 04 nn max = 60

Part numbering :

Type :Y-YL

2 2 I n n

See Fixing on page 43, 44
"Fxx" without fixing

nn = number of LF contacts

Type	L
Y	3
YL	4,5

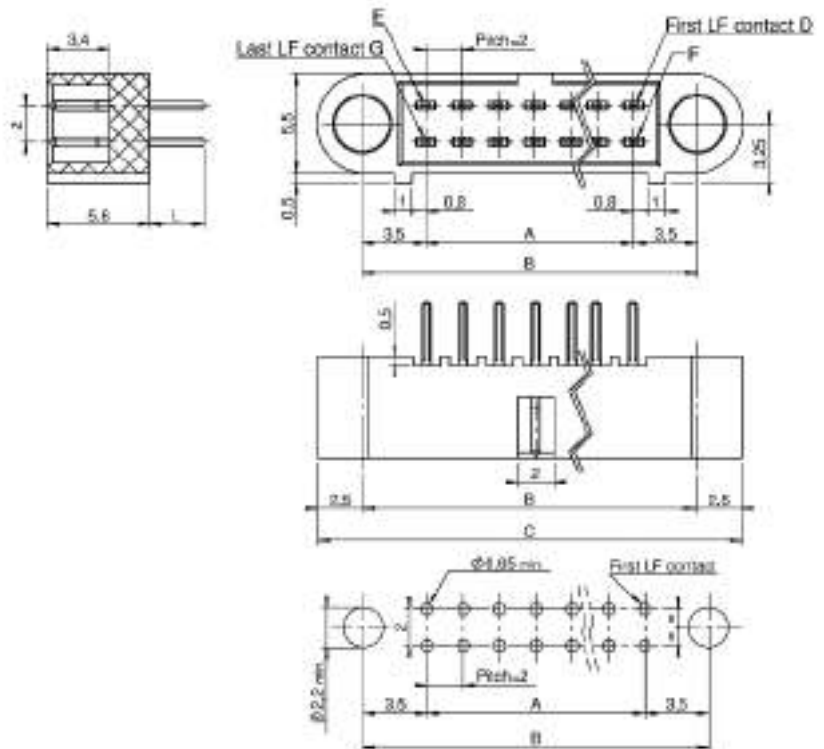
Calculation :

$$A = nn - 2$$

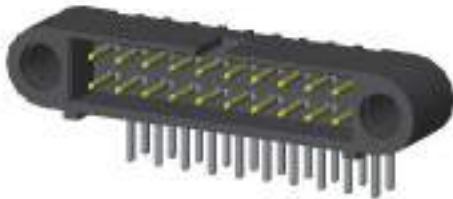
$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



90° PCB



nn min = 04 nn max = 60

Part numbering :

Type :V-VL

2 2 I n n

See Fixing on page 43, 44
"Fxx" without fixing

nn = number of LF contacts

Type	L
V	3
VL	4,5

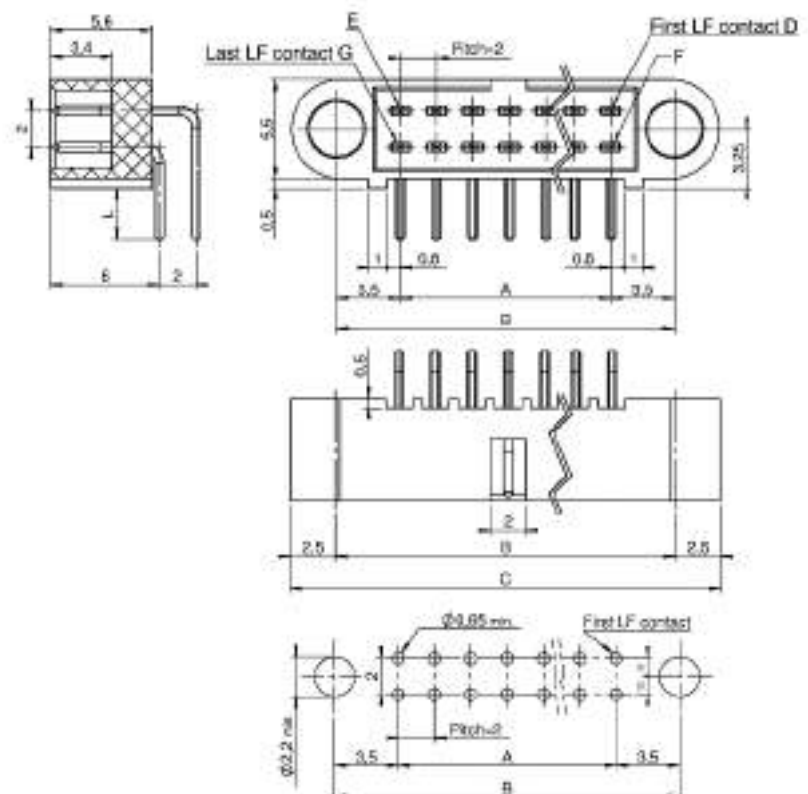
Calculation :

$$A = nn - 2$$

$$B = A + 7$$

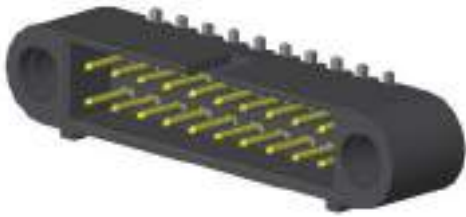
$$C = A + 12$$

Refer to dimension table on cover page



CMM 220 male

STRAIGHT SMT



nn min = 04 nn max = 60

Part numbering :

Type : T-TL

2 2 1 n n

See Fixing on page 43, 44
"Fxx" without fixing

nn = number of LF contacts

Optional: Packaging in reel available upon request

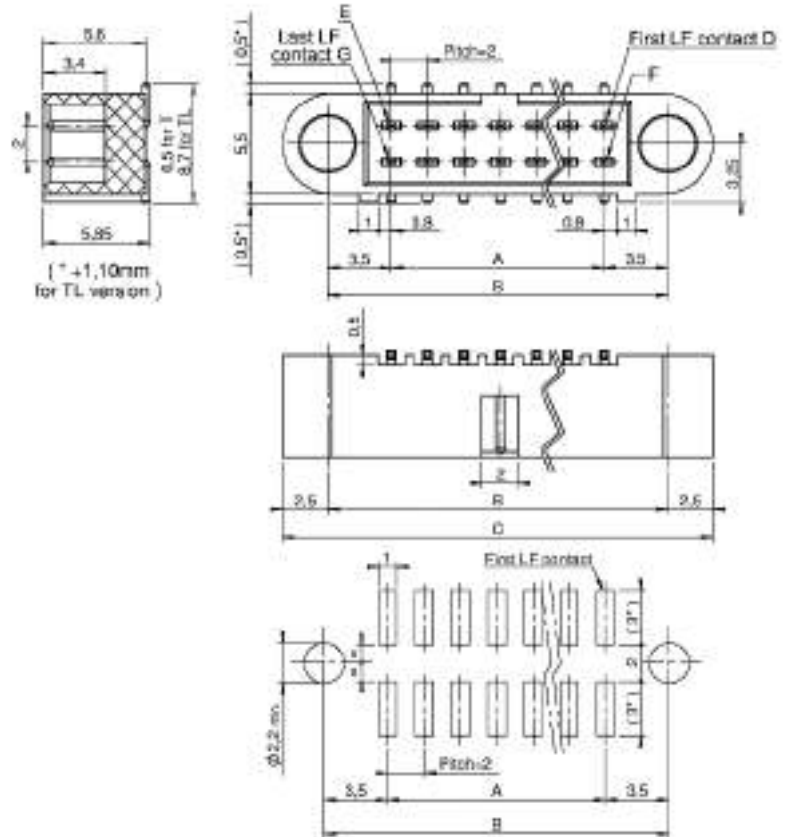
Calculation :

$$A = nn - 2$$

$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



90° SMT



nn min = 04 nn max = 60

Part numbering :

2 2 1 R n n

See Fixing on page 43, 44
"Fxx" without fixing

nn = number of LF contacts

Optional: Packaging in reel available upon request

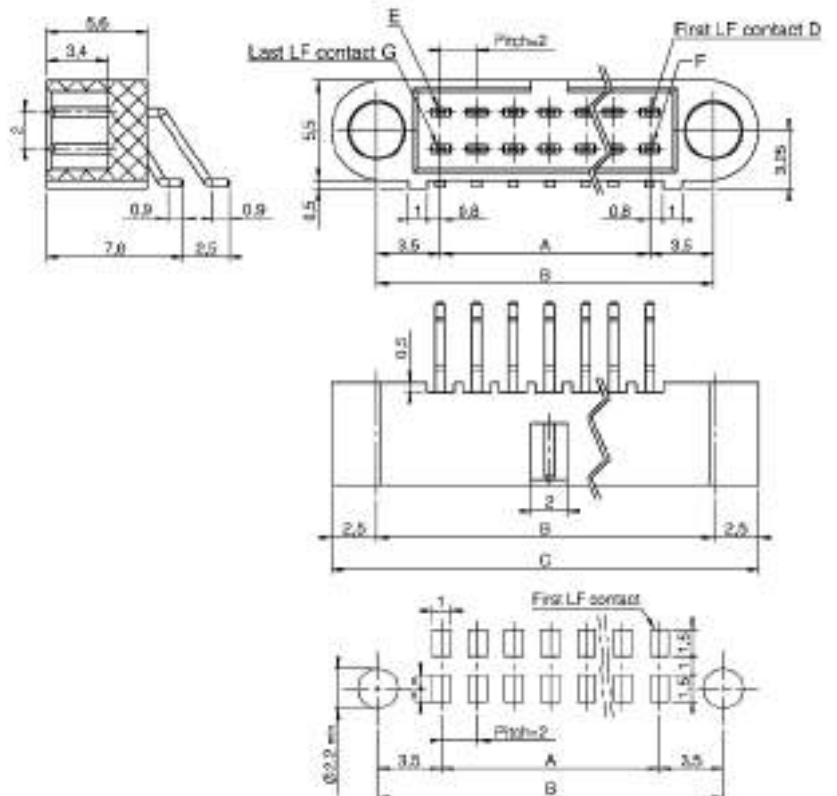
Calculation :

$$A = nn - 2$$

$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



CMM 220 female

STRAIGHT PCB



nn min = 04 nn max = 60

Part numbering :

Type : Y-YL

2 2 2 n n

See Fixing on page 45-46
"Mxx" without fixing

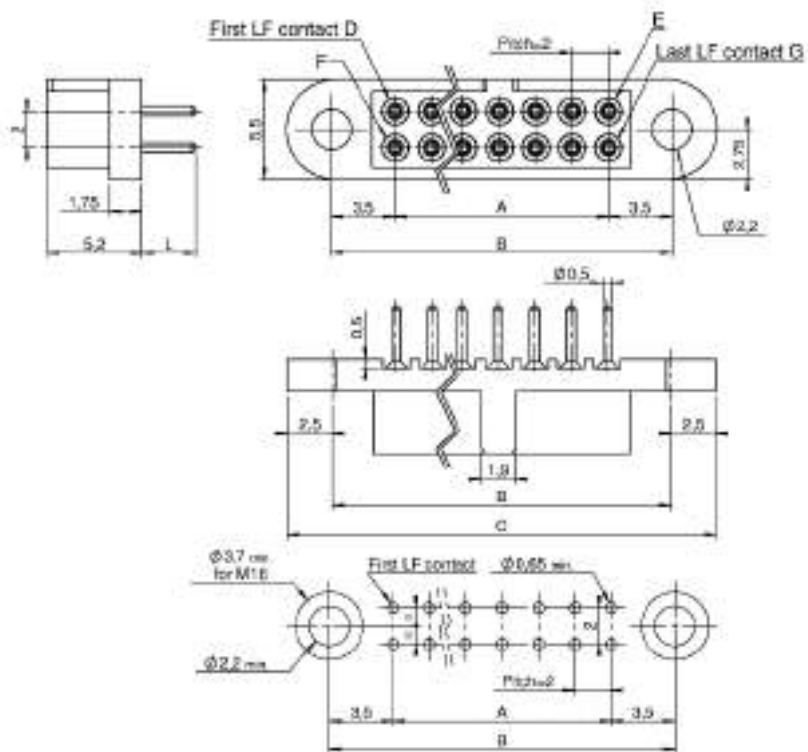
nn = number of LF contacts

Type	L
Y	3
YL	4,5

Calculation :

A = nn - 2
B = A + 7
C = A + 12

Refer to dimension table on cover page



90° PCB



nn min = 04 nn max = 60

Part numbering :

Type :V-VL

2 2 2 n n

See Fixing on page 45
"Mxx" without fixing

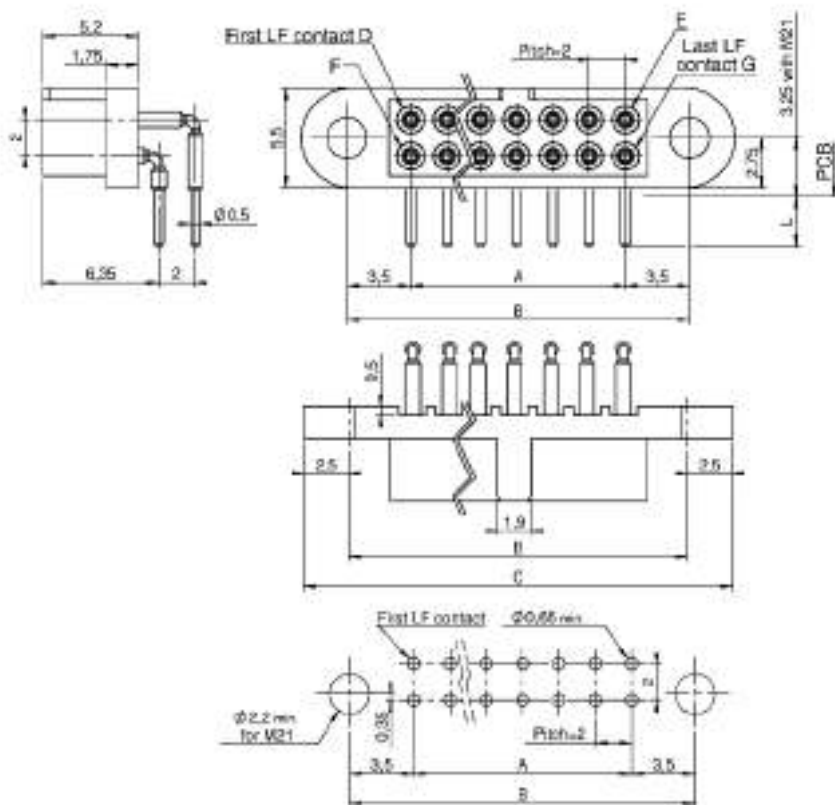
nn = number of LF contacts

Type	L
V	3
VL	4,5

Calculation :

A = nn - 2
B = A + 7
C = A + 12

Refer to dimension table on cover page



CMM 220 female

STRAIGHT PRESS FIT



nn min = 04 nn max = 60

Part numbering :

2 2 2 PF n n

See Fixing on page 45-46
"Mxx" without fixing

nn = number of LF contacts

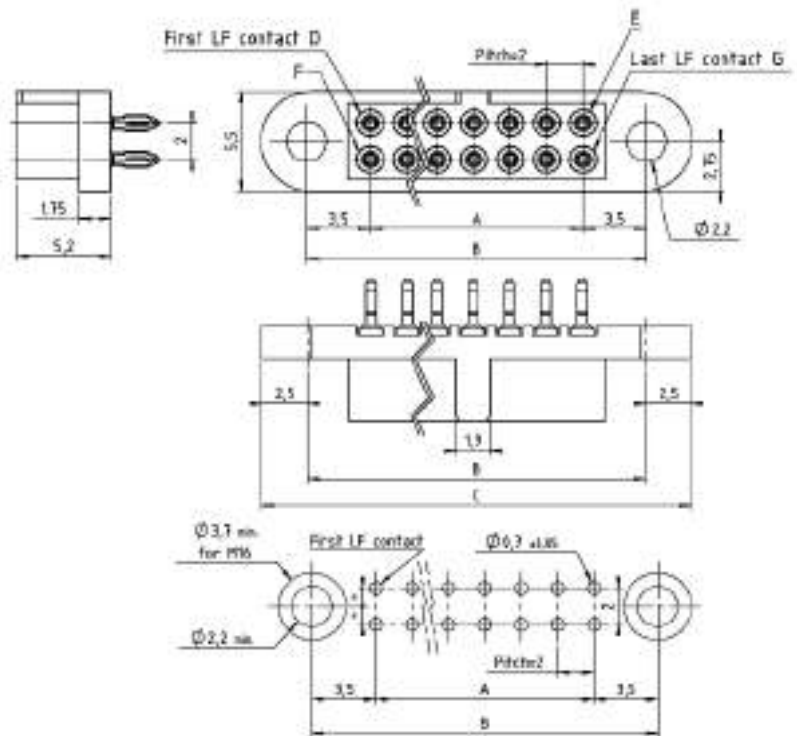
Calculation :

$$A = nn - 2$$

$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



CRIMP



nn min = 04 nn max = 60

Part numbering :

Type : S-C

2 2 2 n n

See Fixing on page 45-46
"Mxx" without fixing

nn = number of LF contacts

Type	Gauge
S	24-28
C	22

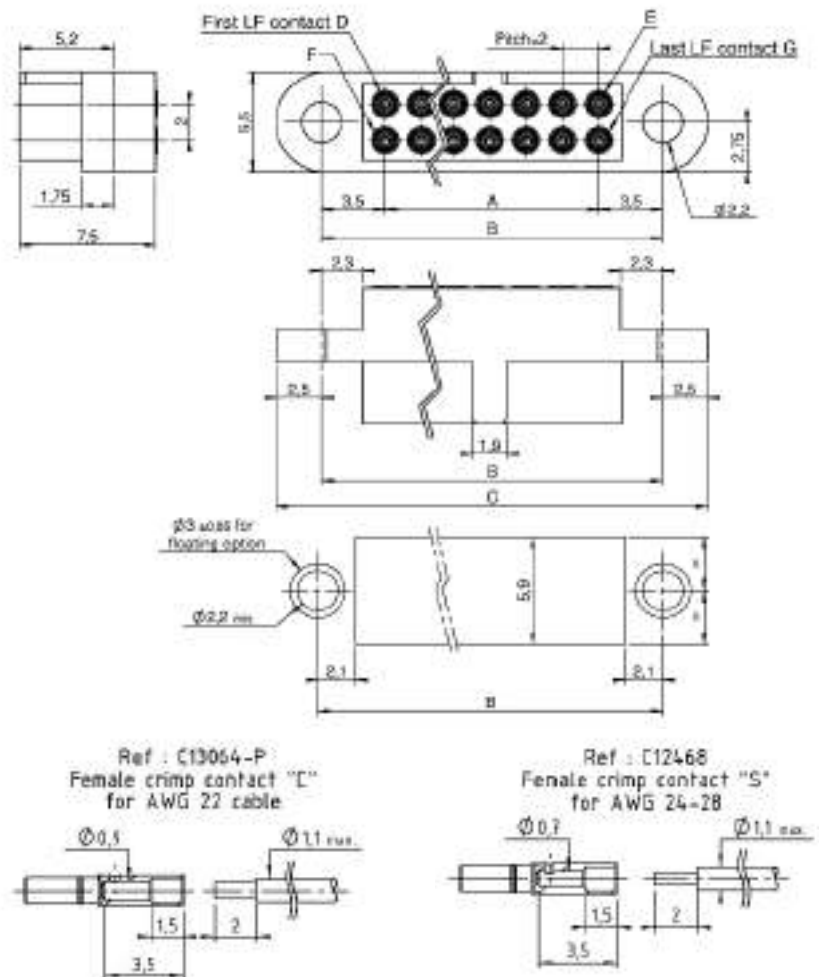
Calculation :

$$A = nn - 2$$

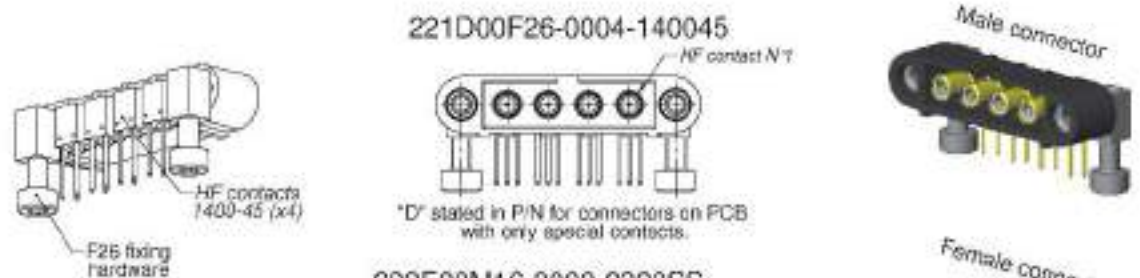
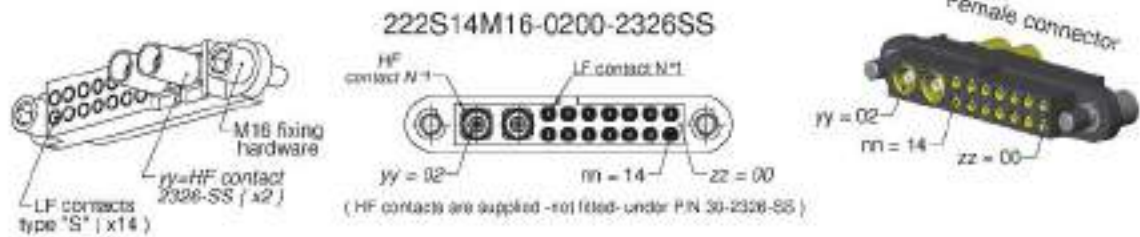
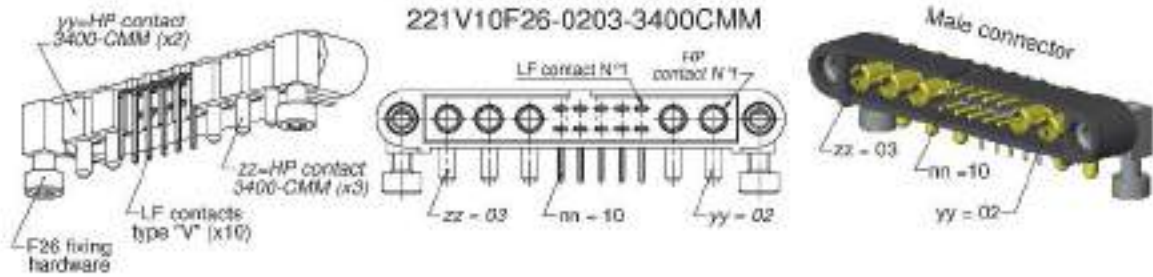
$$B = A + 7$$

$$C = A + 12$$

Refer to dimension table on cover page



CMM 220 mixed-layout



PART NUMBERING REMINDER

Code with Low Frequency contacts only					Additional code for mixed-layout connector (HF/HP)			
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	Number of HF/HP contacts pin I side (LF contact number 1)	Number of HF/HP contacts opposite to LF contact number 1	HF/HP Contact Type	
22	1 male	Refer to table on page 7	04 to 60	Refer to pages 43 to 46	Depends upon the number of LF contacts If use with shifted central key, please refer to page 42 HF / HP : 15 contacts max. Type of HF/HP contact : please refer to pages 8-9		HP/HP 30 please refer to pages 75 to 94	
	2 female							

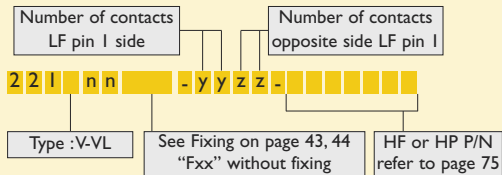
CMM 220

Male mixed-layout

90° PCB



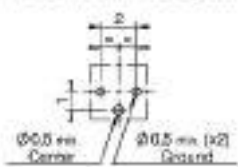
Part numbering :



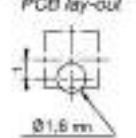
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 30-1400-xx PCB lay-out



HP 30-3400-xx PCB lay-out

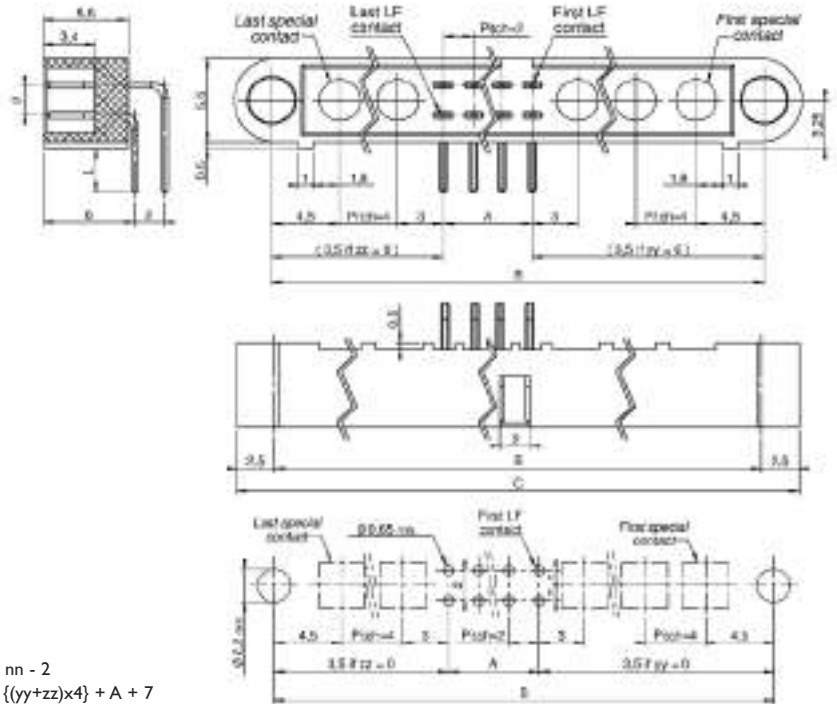


$$A = nn - 2$$

$$B = ((yy+zz) \times 4) + A + 7$$

$$B_{max} = 65 \text{ mm}$$

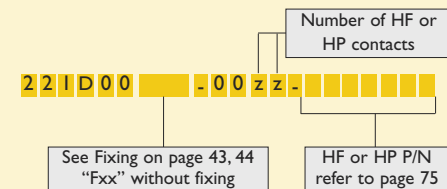
$$C = B + 5$$



90° PCB FOR HP/HF CONTACTS ONLY

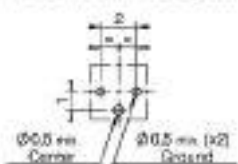


Part numbering :

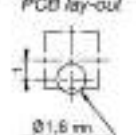


Pattern for special contact :

HF 30-1400-xx PCB lay-out



HP 30-3400-xx PCB lay-out



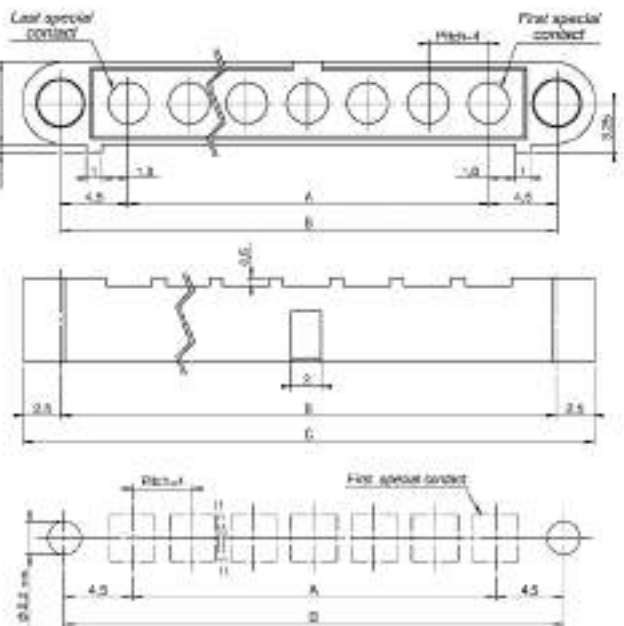
$$A = (zz \times 4) - 4$$

$$B = A + 9$$

$$C = B + 5$$

Special contacts min. : 02
max. : 15

Refer to sizes information
table on cover page



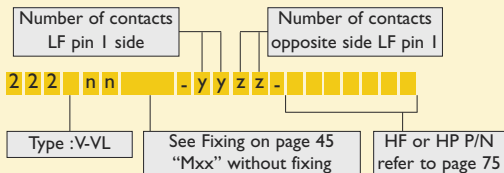
CMM 220

Female mixed-layout

90° PCB



Part numbering :

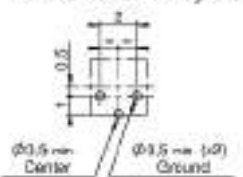


nn = number of LF contacts

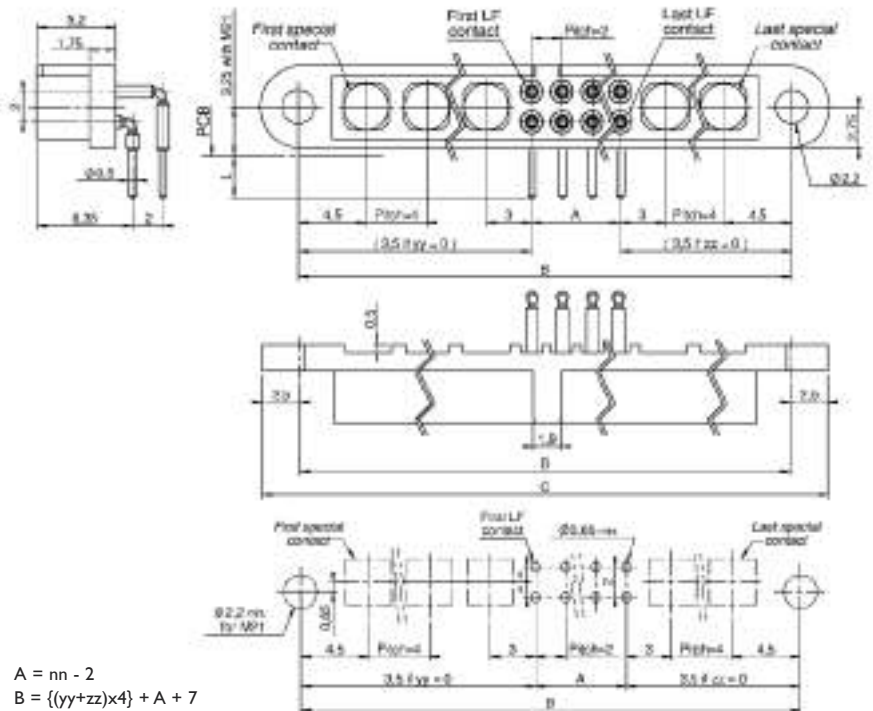
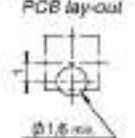
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 30-2400-xx PCB lay-out



HP 30-4400-xx PCB lay-out



$$A = nn - 2$$

$$B = \{(yy+zz) \times 4\} + A + 7$$

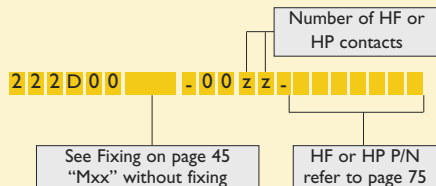
$$B_{max} = 65 \text{ mm}$$

$$C = B + 5$$

90° PCB FOR HP/HF CONTACTS ONLY

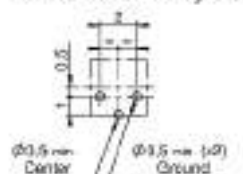


Part numbering :

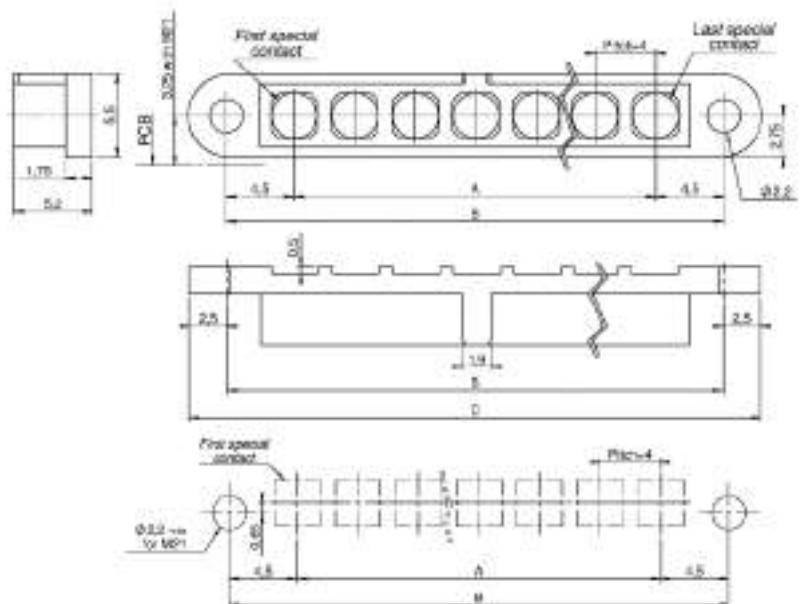
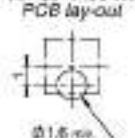


Pattern for special contact :

HF 30-2400-xx PCB lay-out



HP 30-4400-xx PCB lay-out



$$A = (zz \times 4) - 4$$

$$B = A + 9$$

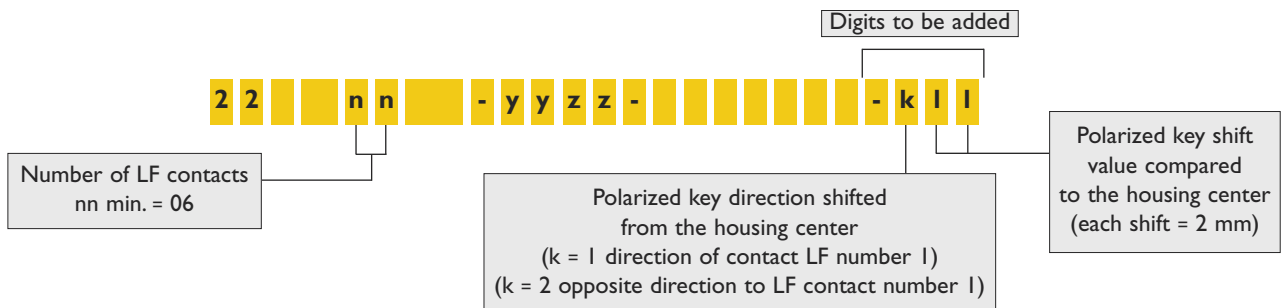
$$C = B + 5$$

Special contacts min. : 02
max. : 15

Refer to dimension table
on cover page

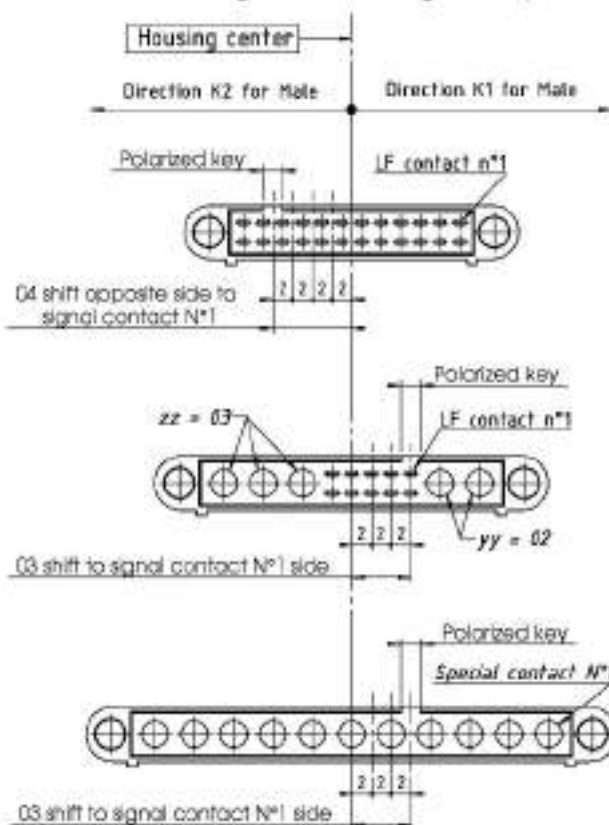
Part numbering with shifted polarization key position

PART NUMBERING



EXPLANATION

Shown looking onto mating face (Example with Male housing)



CMM220 with LF contacts only with shifted polarized key.

Example : **2 2 1 1 2 4 Fxx - 2 0 4**

CMM220 with LF contacts and Special contacts with shifted polarized key.

Example : **2 2 1 1 1 0 Fxx - 0 2 0 3 - - - - - 1 0 3**

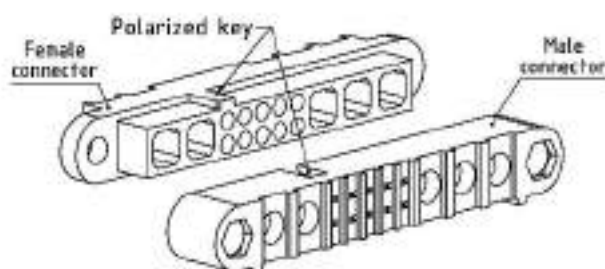
CMM220 with Special contacts only with shifted polarized key.

Example : **2 2 1 1 0 0 Fxx - 0 0 1 1 - - - - - 1 0 3**



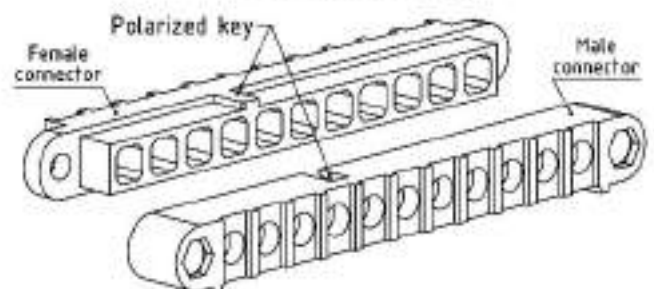
EXAMPLES

Connectors Male & Female CMM series 220
LF and special contacts mixed



Male : **2 2 1 1 1 0 Fxx - 0 2 0 3 - - - - - 1 0 3**
Female : **2 2 2 1 1 0 Mxx - 0 2 0 3 - - - - - 1 0 3**

Connectors Male & Female CMM series 220
special contacts only



Male : **2 2 1 1 0 0 Fxx - 0 0 1 1 - - - - - 1 0 3**
Female : **2 2 2 1 0 0 Mxx - 0 0 1 1 - - - - - 1 0 3**

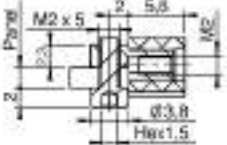
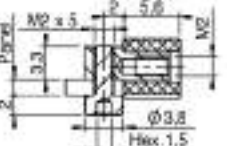
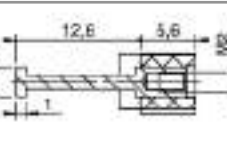
Fixing hardware interconnection table for CMM 220

[illegible]

Make it a habit! Use easy & automatic configurators for CMM micro-connectors single part and mating-half construction on www.nicomatic.com.

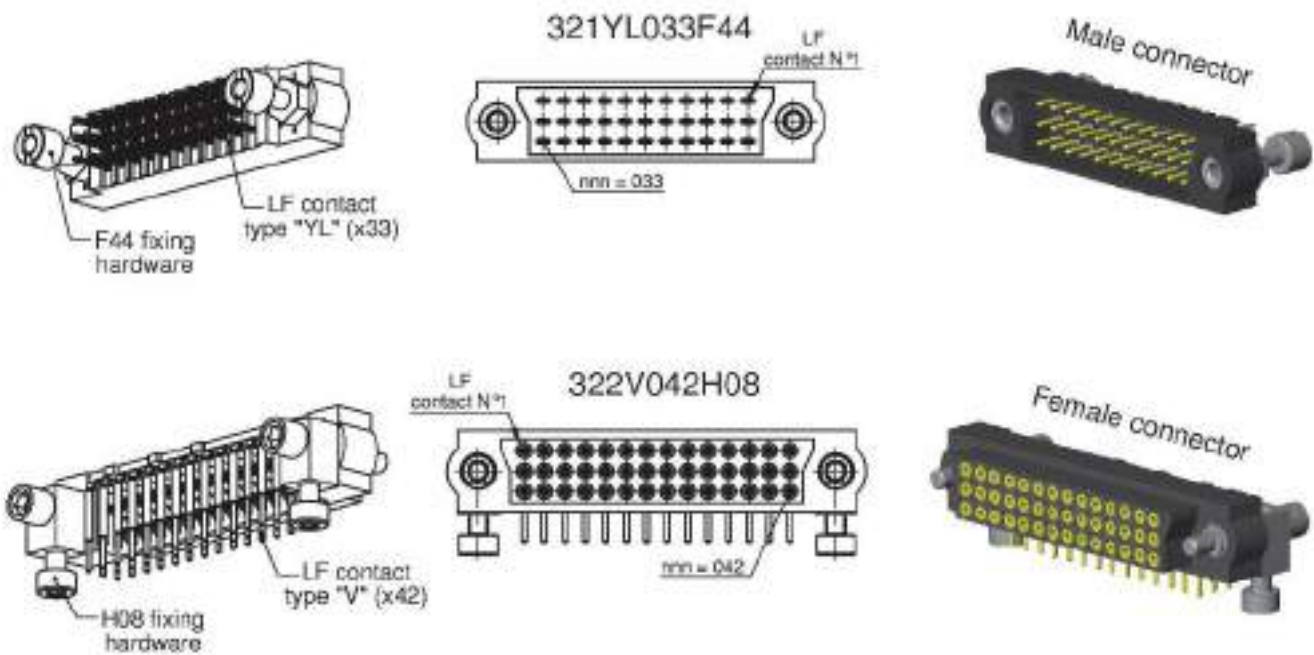


FIXING HARDWARE FOR CMM 220 MALE

REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
F27			F27 : CMM male : Card edge for HF contact 30-1500-CMM
F34			F34 : CMM male : Card edge LF contact or mixed
F28			F28 : CMM male : S-C (E : straight) 

Please refer to the CMM Catalogue Guidelines for any other fixing not listed here.

CMM 320 with LF contacts



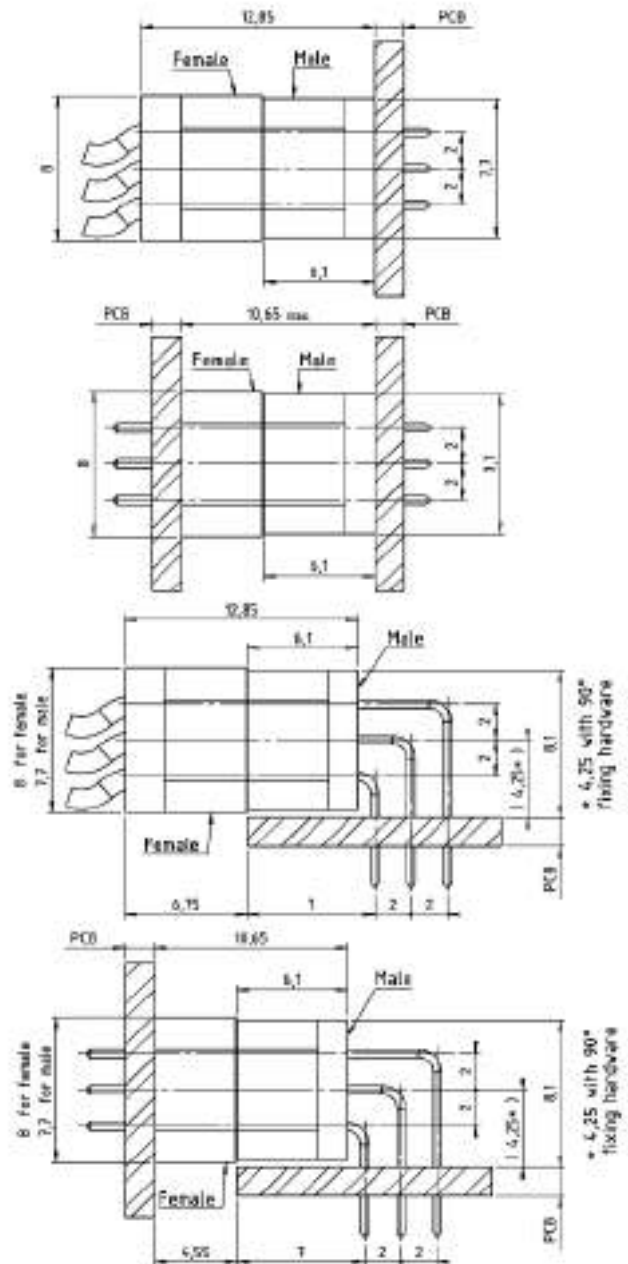
PART NUMBERING REMINDER

Code with Low Frequency contacts only					
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	
				n n n	
3 rows	32	1 male	Refer to table on page 7	006 to 120	Refer to pages 69 to 74
		2 female			

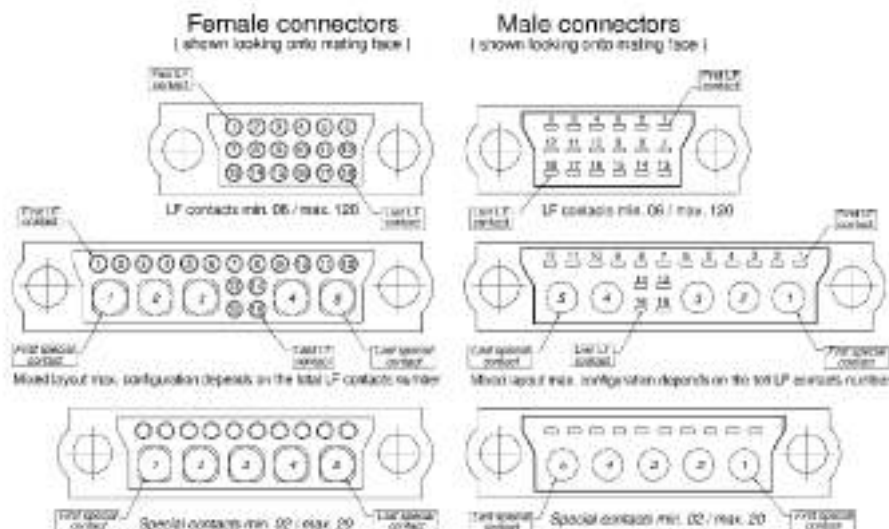
CMM 320

Configuration

CONNECTOR SPACING



CONTACTS POSITIONS



CMM 320 Male

STRAIGHT PCB FOR LF CONTACTS ONLY



Part numbering :

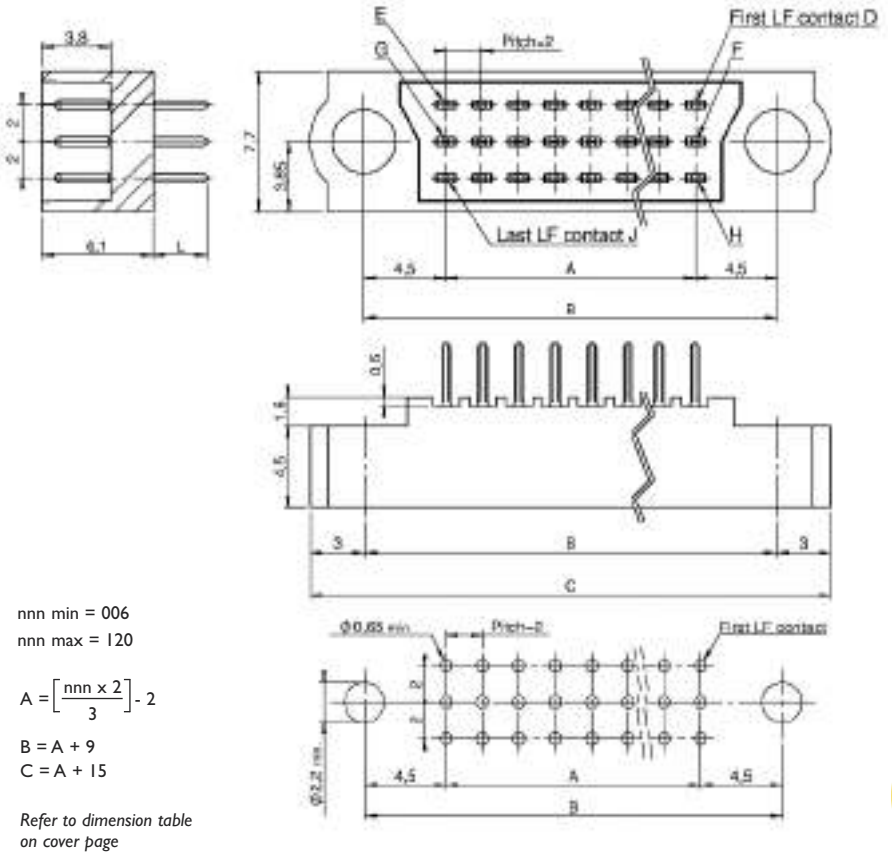
Type : Y-YL

3 2 I n n n

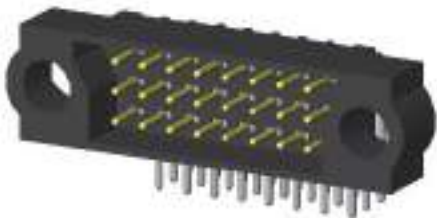
See Fixing on pages 69 to 74
"Fxx" without fixing

nnn = number of LF contacts

Type	L
Y	3
YL	4,5



90° PCB FOR LF CONTACTS ONLY



Part numbering :

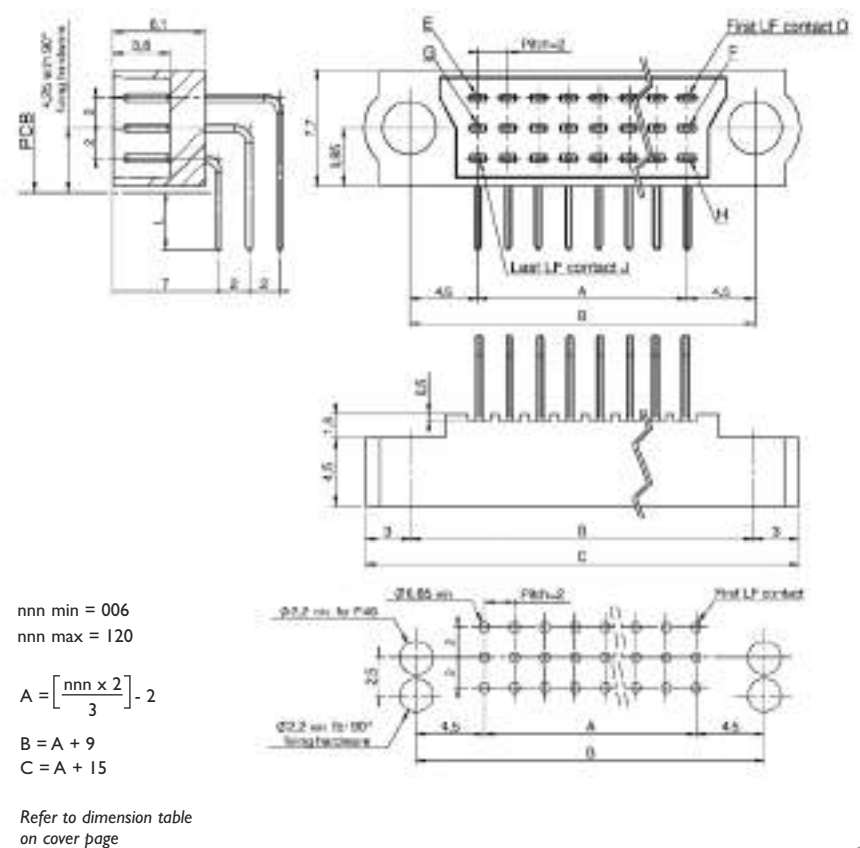
Type : V-VL

3 2 I n n n

See Fixing on pages 69 to 74
"Fxx" without fixing

nnn = number of LF contacts

Type	L
V	3
VL	4,5



CMM 320 Male

90° SMT FOR LF CONTACTS ONLY



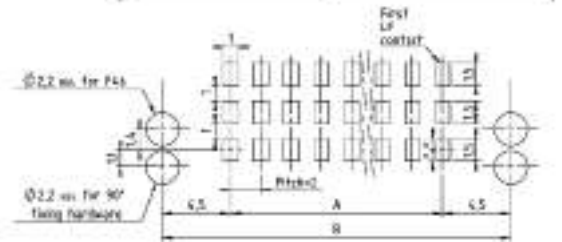
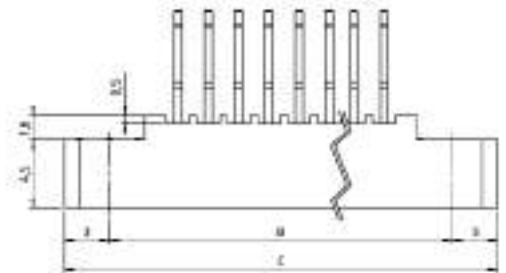
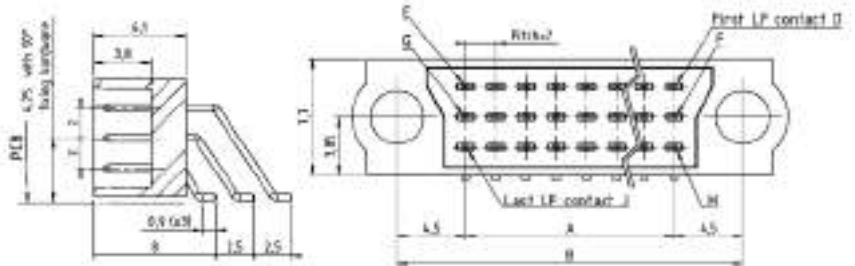
Part numbering :

3 2 1 R n n n

See Fixing on pages 69 to 74
"Fxx" without fixing

nnn = number of LF contacts

Optional: Packaging in reel available upon request



nnn min = 006

nnn max = 120

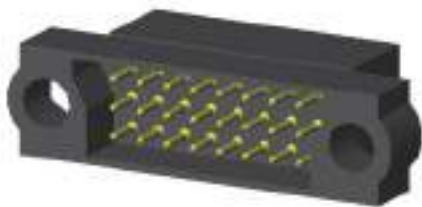
$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

CRIMP FOR LF CONTACTS ONLY



Part numbering :

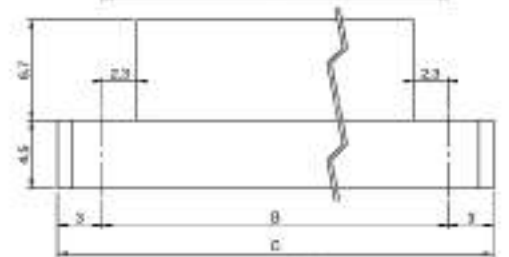
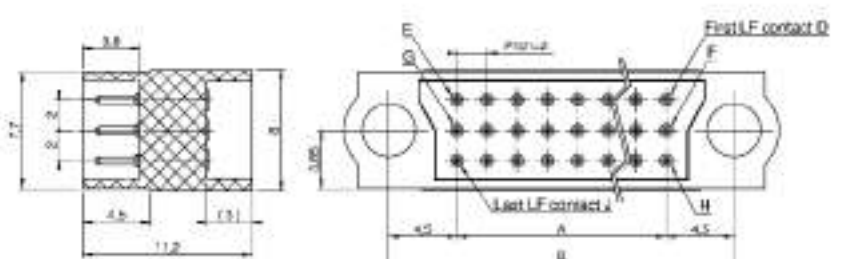
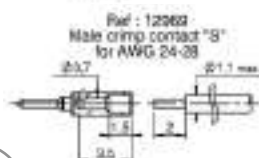
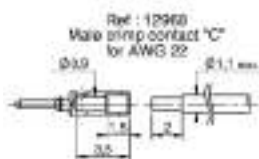
Type : S-C

3 2 1 n n n

See Fixing on pages 69 to 74
"Fxx" without fixing

nnn = number of LF contacts

Type	Gauge
S	24-28
C	22



nnn min = 006

nnn max = 120

$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

CMM 320 Female

STRAIGHT PCB FOR LF CONTACTS ONLY



Part numbering :

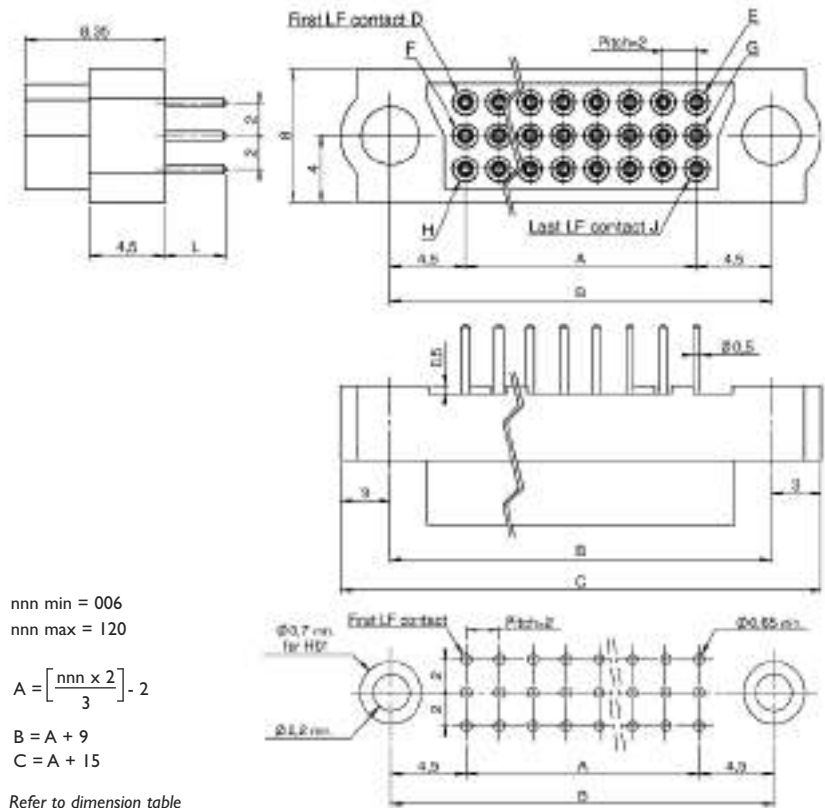
Type : Y-YL

3 2 2 n n n

See Fixing on pages 69 to 74
"Mxx" without fixing

nnn = number of LF contacts

Type	L
Y	3
YL	4,5



nnn min = 006
nnn max = 120

$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

90° PCB FOR LF CONTACTS ONLY



Part numbering :

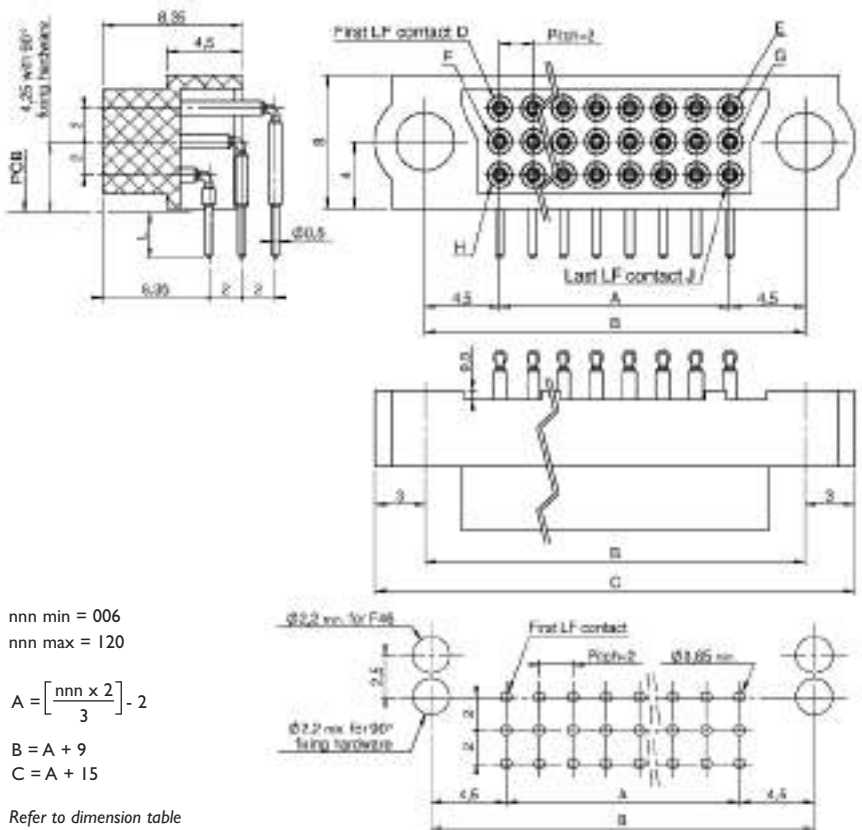
Type : V-VL

3 2 2 n n n

See Fixing on pages 69 to 74
"Mxx" without fixing

nnn = number of LF contacts

Type	L
V	3
VL	4,5



nnn min = 006
nnn max = 120

$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

CMM 320 Female

CRIMP FOR LF CONTACTS ONLY



Part numbering :

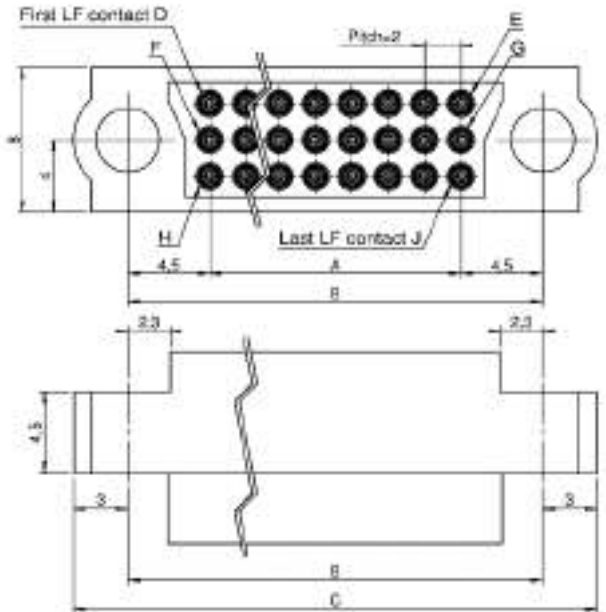
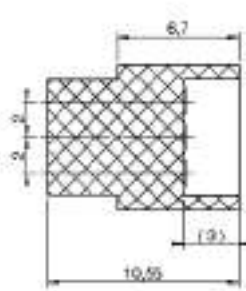
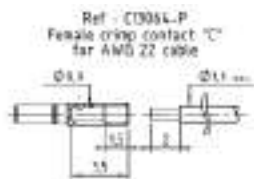
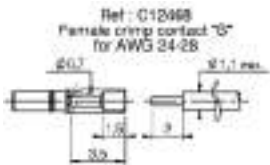
Type : S-C

3 2 2 n n n

See Fixing on pages 69 to 74
"Mxx" without fixing

nnn = number of LF contacts

Type	Gauge
S	24-28
C	22



nnn min = 006

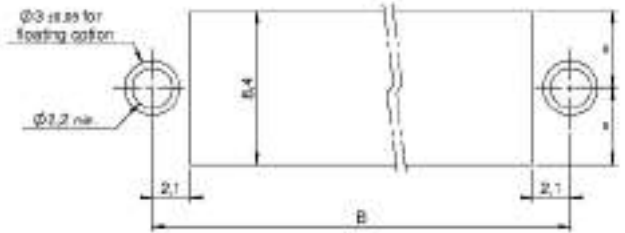
nnn max = 120

$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

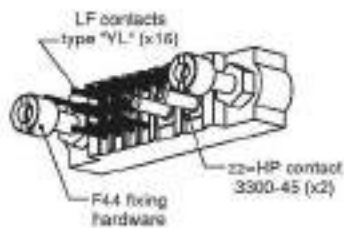
$$B = A + 9$$

$$C = A + 15$$

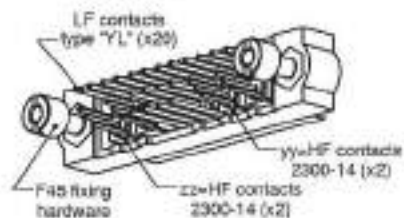
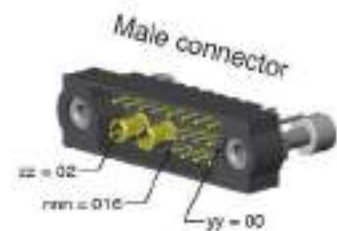
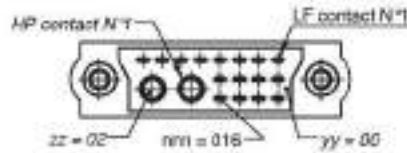
Refer to dimension table
on cover page



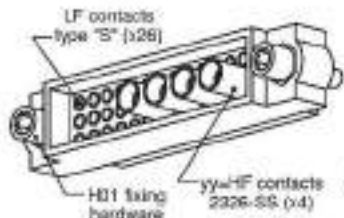
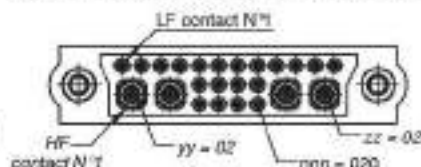
CMM 320 with mixed-layout



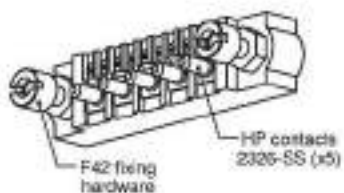
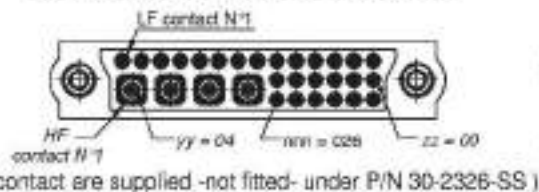
321YL016F44-0002-330045



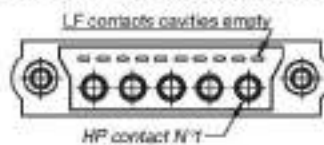
322YL020F45-0202-230014



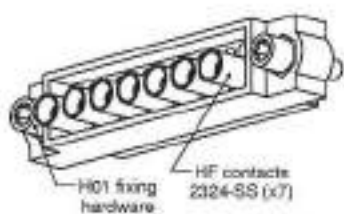
322S026H01-0400-2326SS



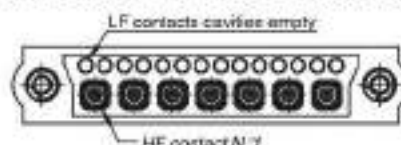
321D000F42-0005-3300CMM



"D" stated in P/N for connectors on PCB with only special contacts.



322E000H01-0007-2324SS



(HF contact are supplied -not fitted- under P/N 30-2324-SS)

"E" stated in P/N for connectors on cable with only special contacts.



PART NUMBERING REMINDER

Code with Low Frequency contacts only					Additional code for mixed-layout connector (HF/HP)			
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	Number of HF/HP contacts pin I side (LF contact number 1)	Number of HF/HP contacts opposite to LF contact number 1	HF/HP Contact Type	
32	1 male	Refer to table on page 7	006 to 120	Refer to pages 69 to 74	Depends upon the number of LF contacts	HF / HP : 20 contacts max.	HF/HP 30 please refer to pages 75 to 94	
32	2 female	Refer to table on page 7	006 to 120	Refer to pages 69 to 74	Type of HF/HP contact : please refer to pages 8-9			

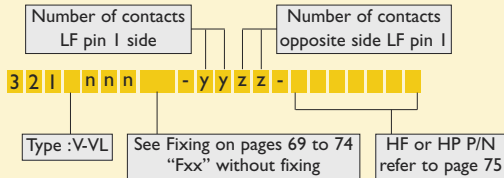
CMM 320

Male mixed-layout

90° PCB

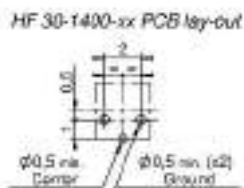


Part numbering :



Type	L
V	3
VL	4,5

Pattern for special contact :

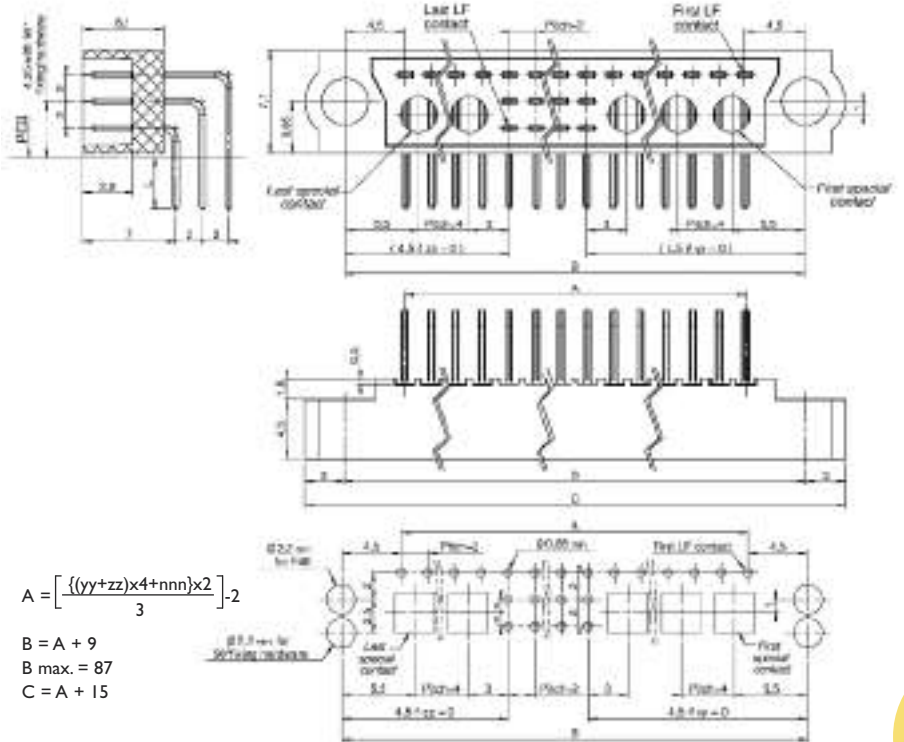


$$A = \left[\frac{(yy+zz) \times 4 + nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$B \text{ max.} = 87$$

$$C = A + 15$$

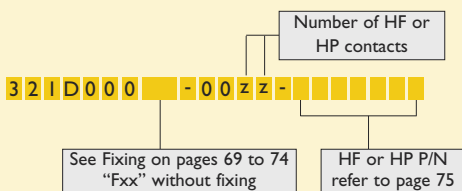


Special contacts mounted

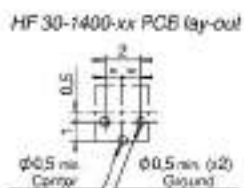
90° PCB FOR HP/HF CONTACTS ONLY



Part numbering :



Pattern for special contact :

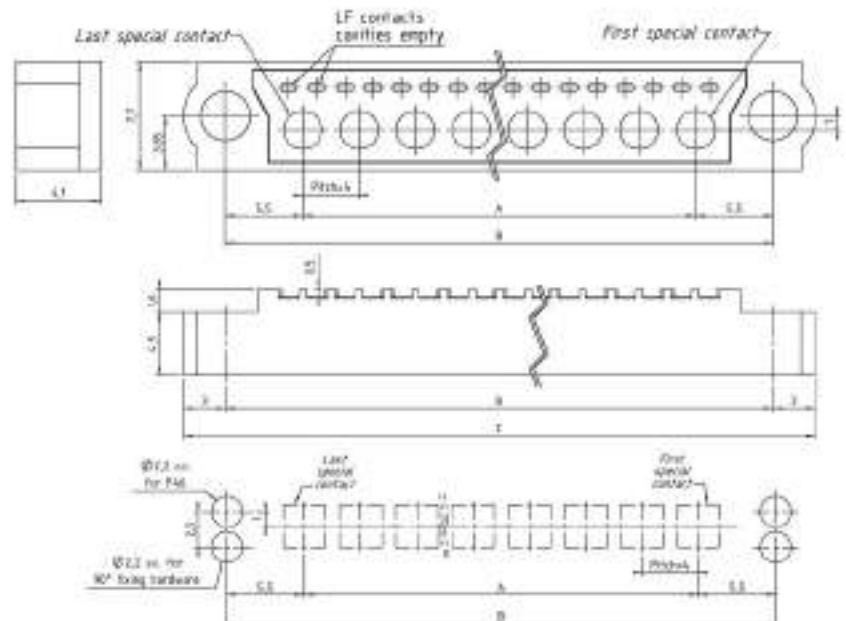


$$A = (zz \times 4) - 4$$

$$B = A + 11$$

$$C = A + 17$$

Special contacts min. : 02
max. : 20

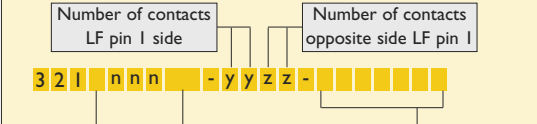


CMM 320
Male mixed-layout

CRIMP



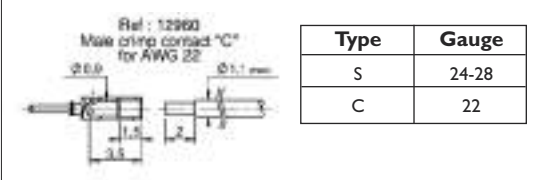
Part numbering :



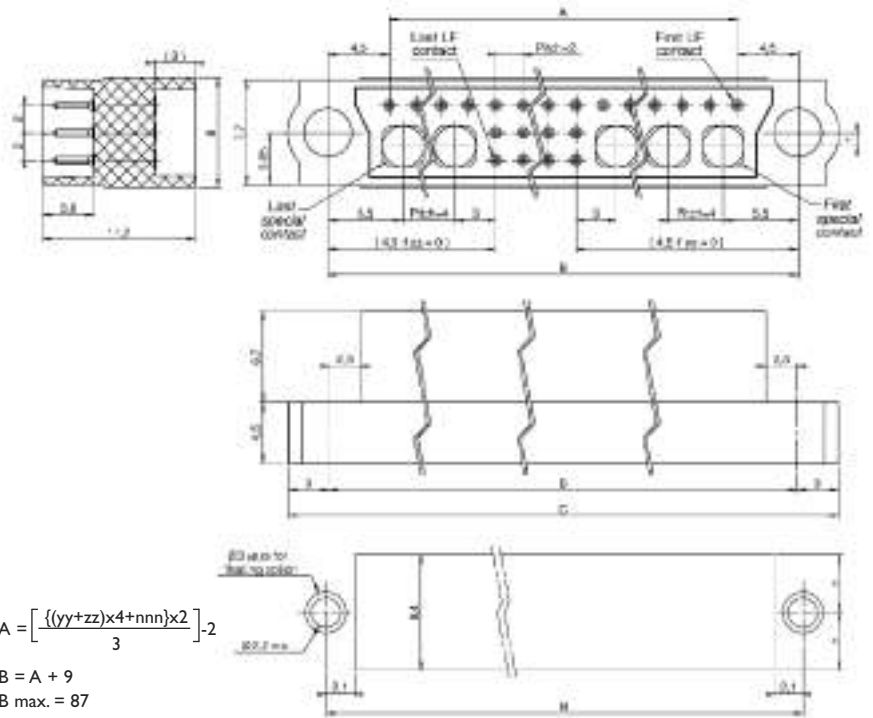
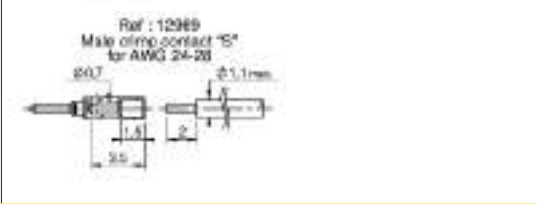
Type : S-C See Fixing on pages 69 to 74
 "Fxx" without fixing HF or HP P/N refer to page 75

nnn = number of LF contacts

nnn = number of LF contacts



Type	Gauge
S	24-28
C	22



$$A = \left[\frac{\{(yy+zz)x4+nnn\}x2}{3} \right]_{-2}$$

$$B = A + 9$$

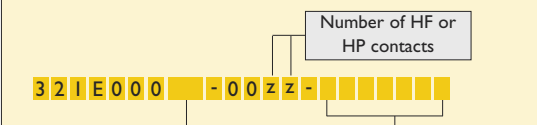
B max. = 87

$$C = A + 15$$

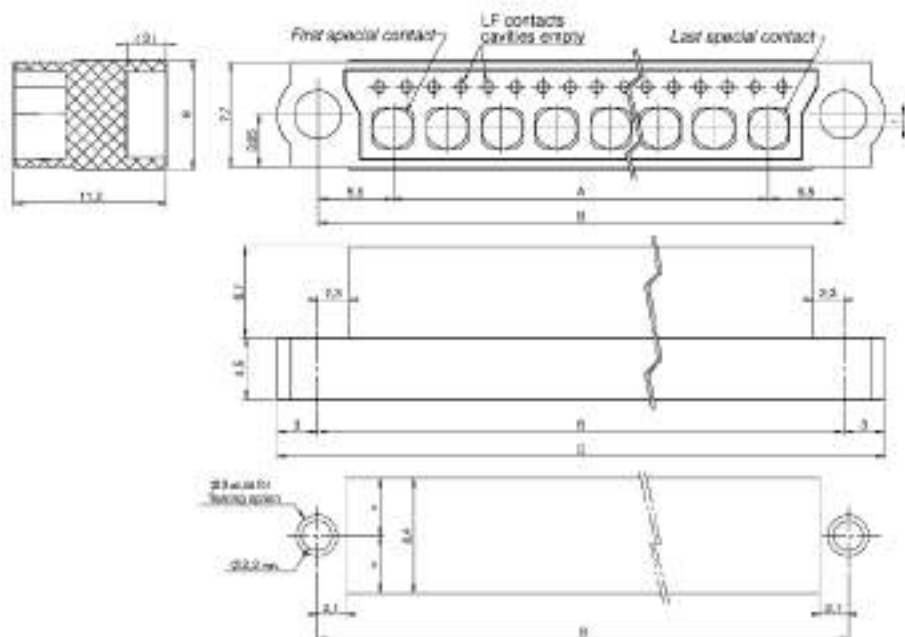
CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



See Fixing on pages 69 to 74
 "Fxx" without fixing



$$A = (zz \times 4) - 4$$

$$B = A + II$$

$$C = A + 17$$

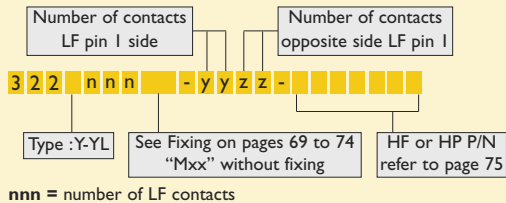
Special contacts min.: 02
max.: 20

Female mixed-layout

STRAIGHT PCB

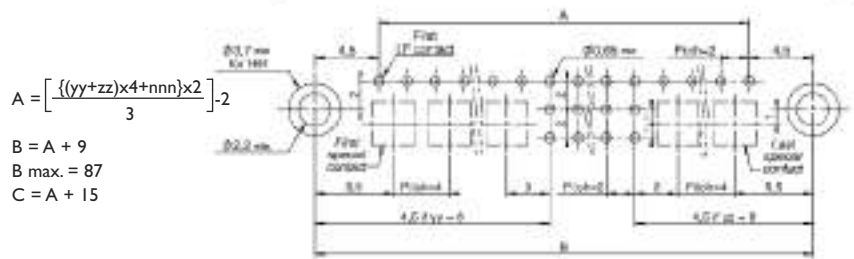
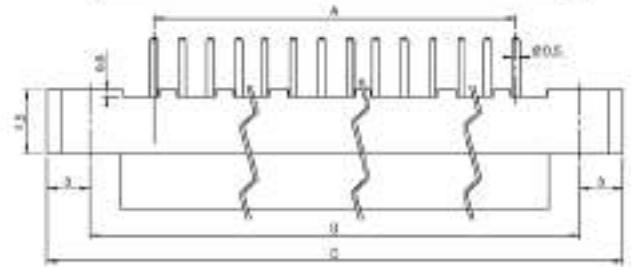
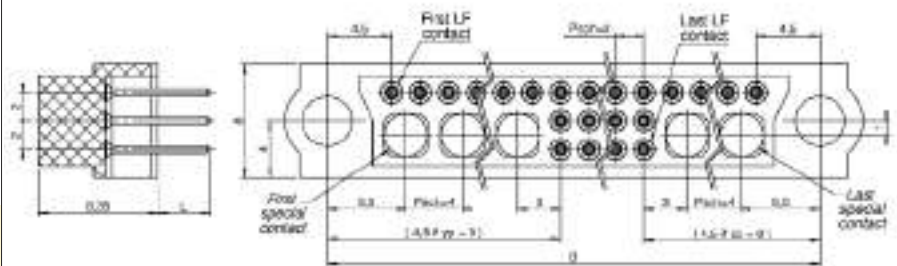
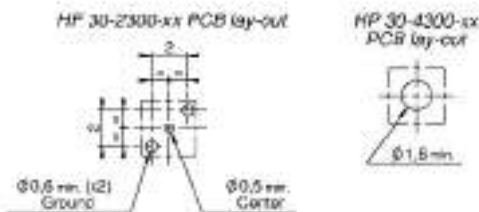


Part numbering :



Type	L
Y	3
YL	4,5

Pattern for special contact :



$$A = \left[\frac{\{(yy+zz) \times 4 + nnn\} \times 2}{3} \right] - 2$$

B = A + 9

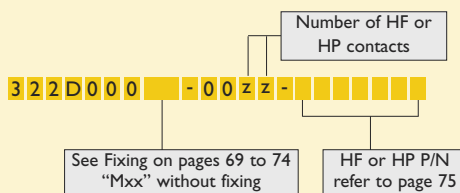
B max. = 87

C = A + 15

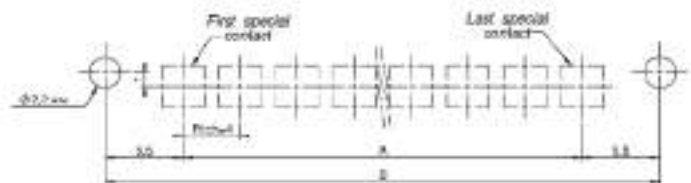
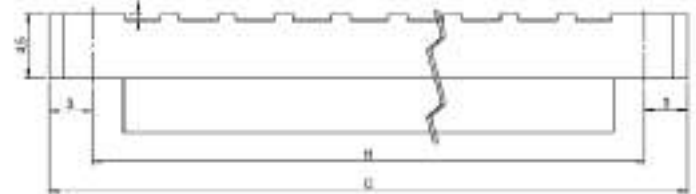
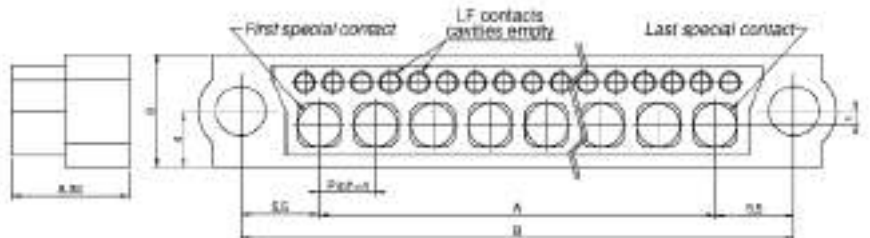
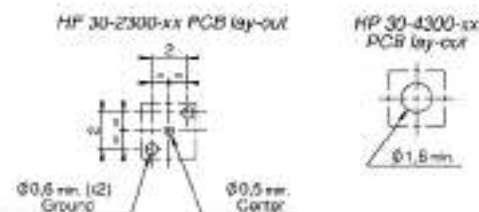
STRAIGHT PCB FOR HP/HF CONTACTS ONLY



Part numbering :



Pattern for special contact :



```
A = (zz x 4) - 4
B = A + 11
C = A + 17
```

Special contacts min.: 02
max.: 20

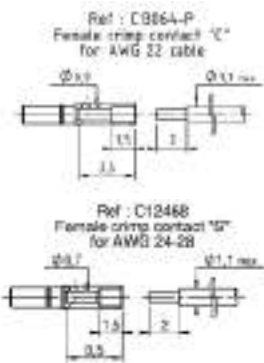
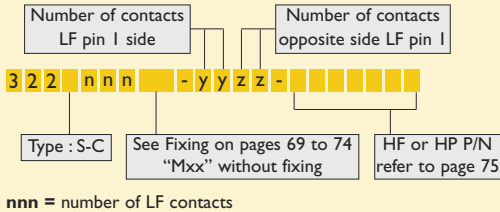
CMM 320

Female mixed-layout

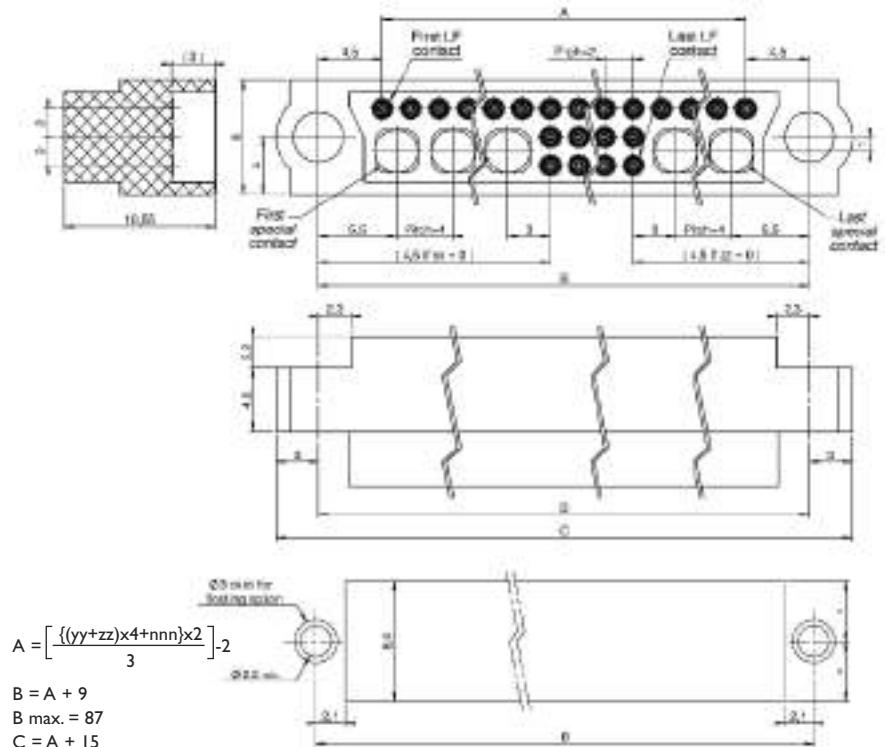
CRIMP



Part numbering :



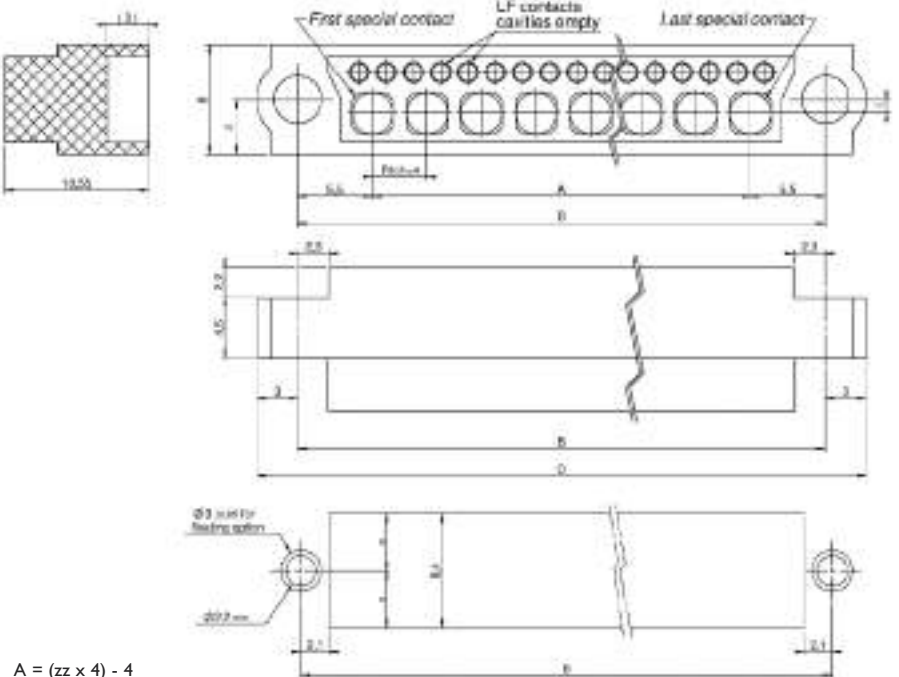
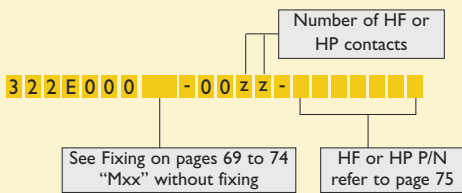
Type	Gauge
S	24-28
C	22



CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



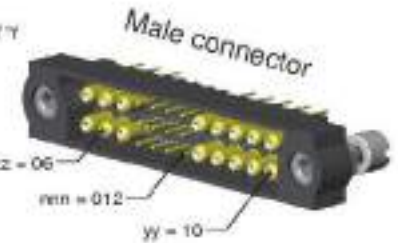
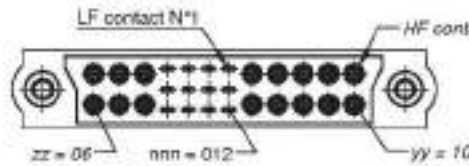
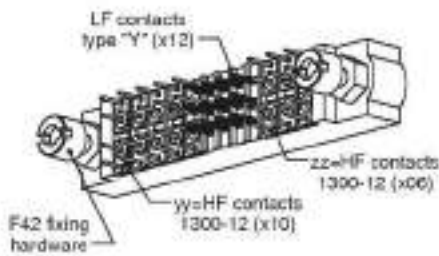
$$A = (zz \times 4) - 4$$

$$B = A + 11$$

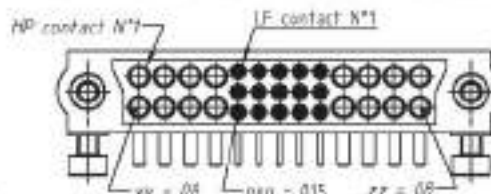
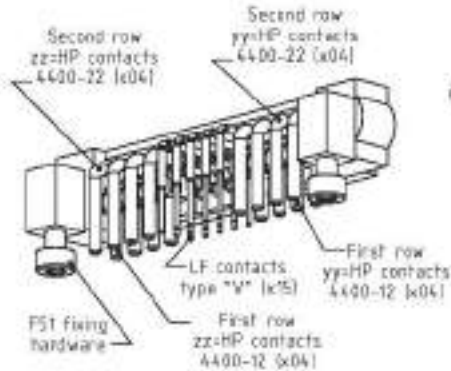
$$C = A + 17$$

CMM 340

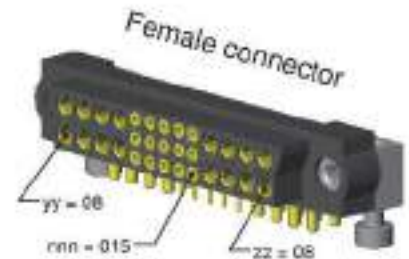
341Y012F42-1006-130012



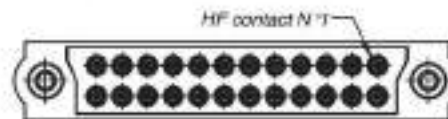
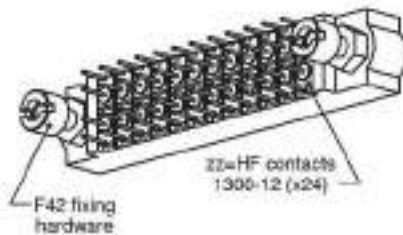
342V015F51-0808-440002



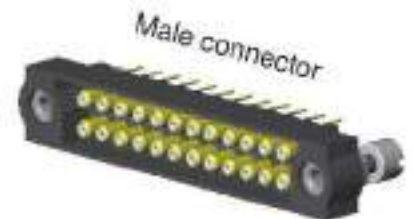
P/N for connector :
HP 4400-12 + HP 4400-22 = 4400-02



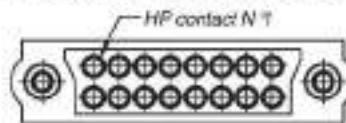
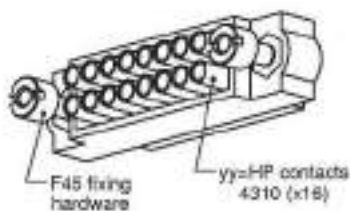
341D000F42-0024-130012



"D" stated in P/N for connectors on PCB with only special contacts.



342E000F45-0016-4310



(HP contacts are supplied -not fitted- under P/N 22-4310)
"E" stated in P/N for connectors on cable with only special contacts.



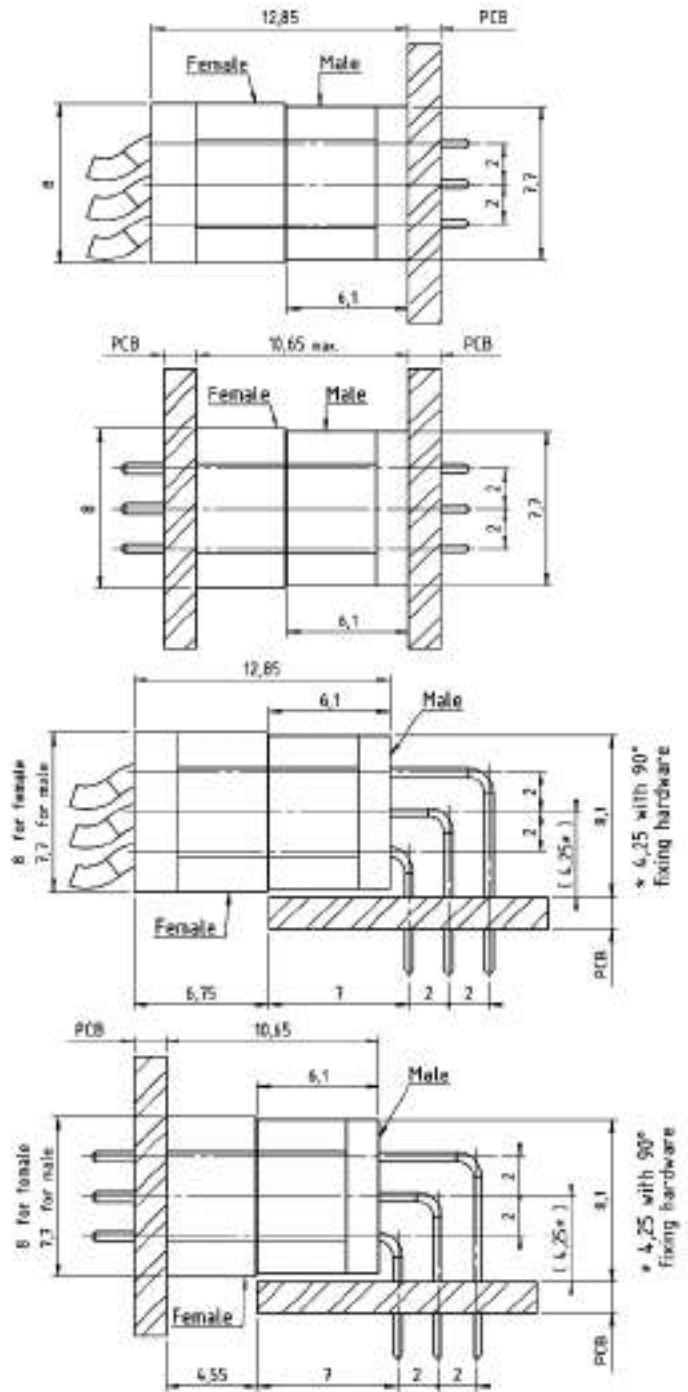
PART NUMBERING REMINDER

Code with Low Frequency contacts only					Additional code for mixed-layout connector (HF/HP)				
Series	Gender	Termination Style	Number of LF contacts	Fixing Hardware	Number of HF/HP contacts pin 1 side (LF contact number 1)	Number of HF/HP contacts opposite to LF contact number 1	HF/HP Contact Type		
			n n n		y y z z -				
3 rows	34	1 male	Refer to table on page 7	Refer to the series 320	Refer to pages 69 to 74	Depends upon the number of LF contacts		HP/HP 22 please refer to pages 95 to 102	
		2 female				HF / HP : 64 contacts max. Type of HF/HP contact : please refer to pages 10-11			

CMM 340

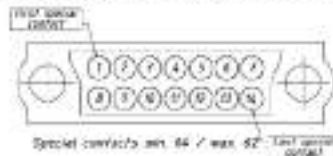
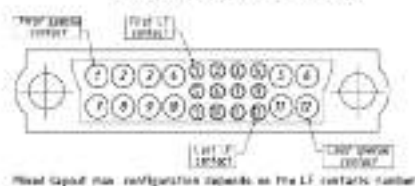
Configuration

CONNECTOR SPACING

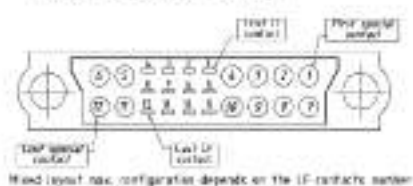


CONTACTS POSITIONS

Female connectors
(shown looking into mating face)



Male connectors
(shown looking into mating face)



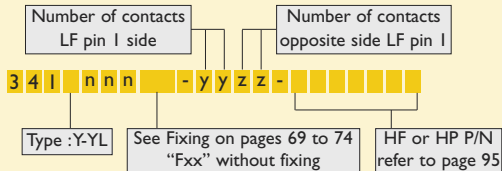
CMM 340

Male mixed-layout

STRAIGHT PCB



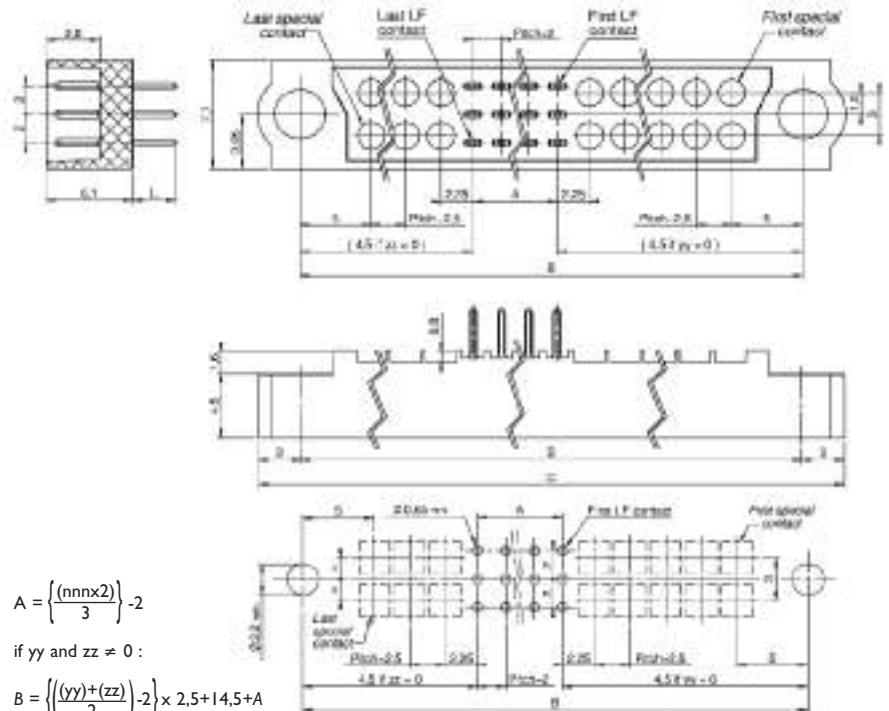
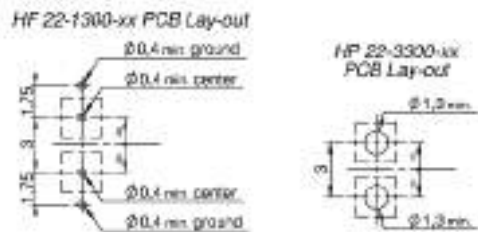
Part numbering :



nnn = number of LF contacts

Type	L
Y	3
YL	4,5

Pattern for special contact :



$$A = \left(\frac{nnn \times 2}{3} \right) - 2$$

if yy and zz $\neq$ 0 :

$$B = \left(\left(\frac{yy + zz}{2} \right) - 2 \right) \times 2,5 + 14,5 + A$$

if yy or zz = 0 :

$$B = \left(\left(\frac{yy \text{ or } zz}{2} \right) - 1 \right) \times 2,5 + 11,75 + A$$

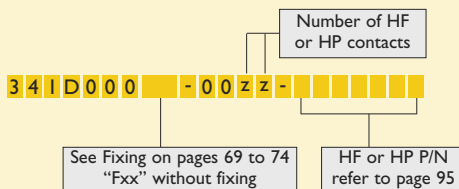
B max. = 87

C = B + 6

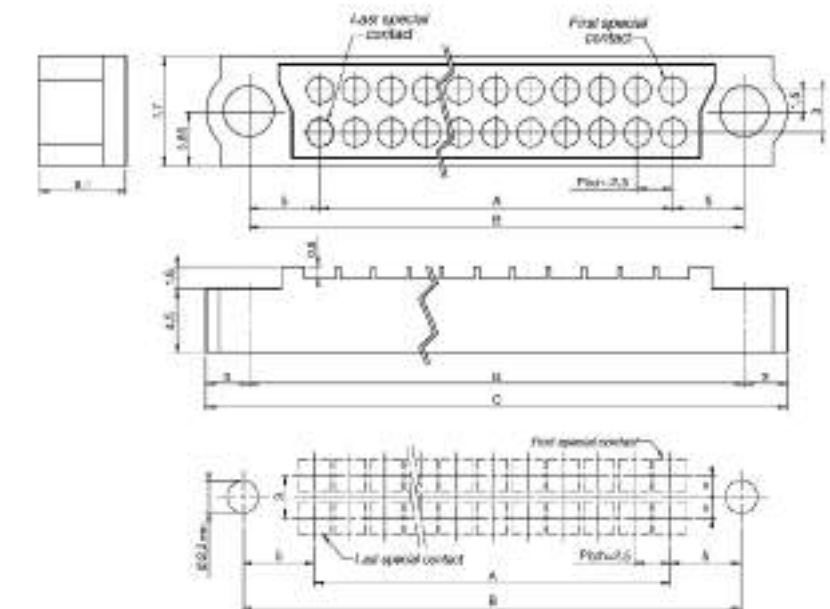
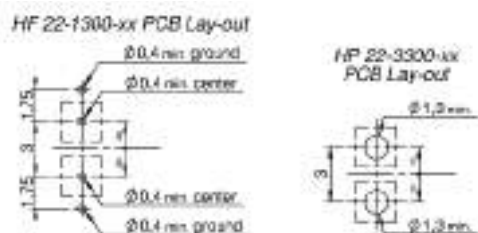
STRAIGHT PCB FOR HP/HF CONTACTS ONLY



Part numbering :



Pattern for special contact :



$$A = \left(\frac{zz \times 2,5}{2} \right) - 2,5$$

Special contacts min. : 04
max. : 64

B = A + 10

C = B + 6

Refer to dimension table on cover page

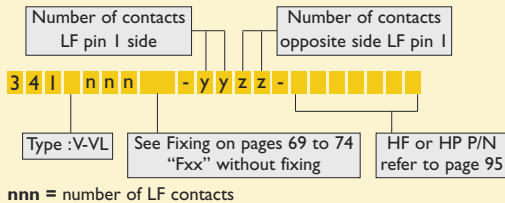
CMM 340

Male mixed-layout

90° PCB



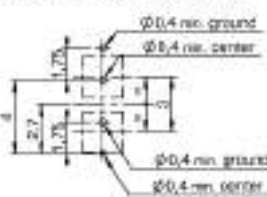
Part numbering :



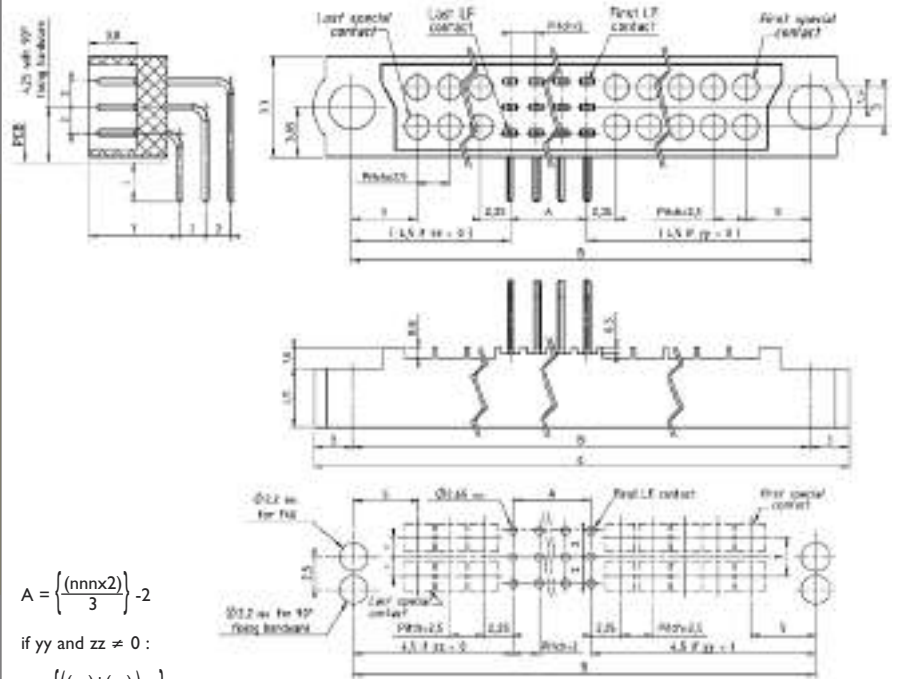
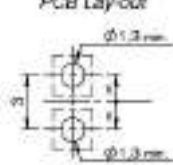
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 22-1400-xx PCB Lay-out



HP 22-3400-xx PCB Lay-out



$$A = \left\{ \frac{(nnn \times 2)}{3} \right\} - 2$$

if yy and zz ≠ 0 :

$$B = \left\{ \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\} \times 2,5 + 14,5 + A$$

if yy or zz = 0 :

$$B = \left\{ \left(\frac{(yy) \text{ or } (zz)}{2} \right) - 1 \right\} \times 2,5 + 11,75 + A$$

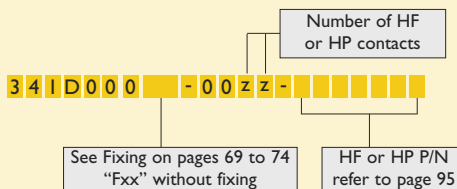
B max. = 87

C = B + 6

90° PCB FOR HP/HF CONTACTS ONLY

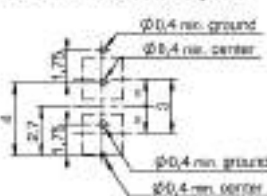


Part numbering :

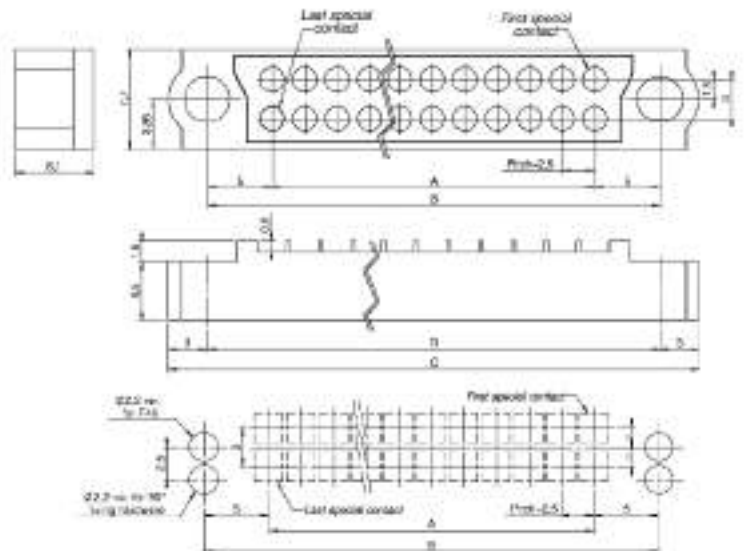
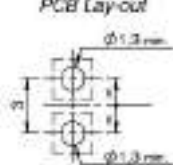


Pattern for special contact :

HF 22-1400-xx PCB Lay-out



HP 22-3400-xx PCB Lay-out



Special contacts min. : 04
max. : 64

$$A = \left(\frac{(zz \times 2,5)}{2} \right) - 2,5$$

B = A + 10

C = B + 6

Refer to dimension table on cover page

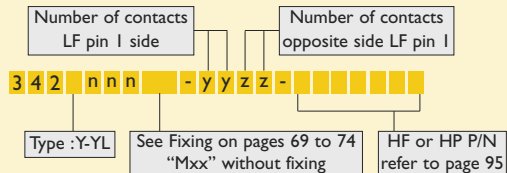
CMM 340

Female mixed-layout

STRAIGHT PCB



Part numbering :

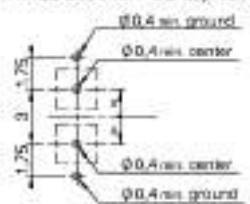


nnn = number of LF contacts

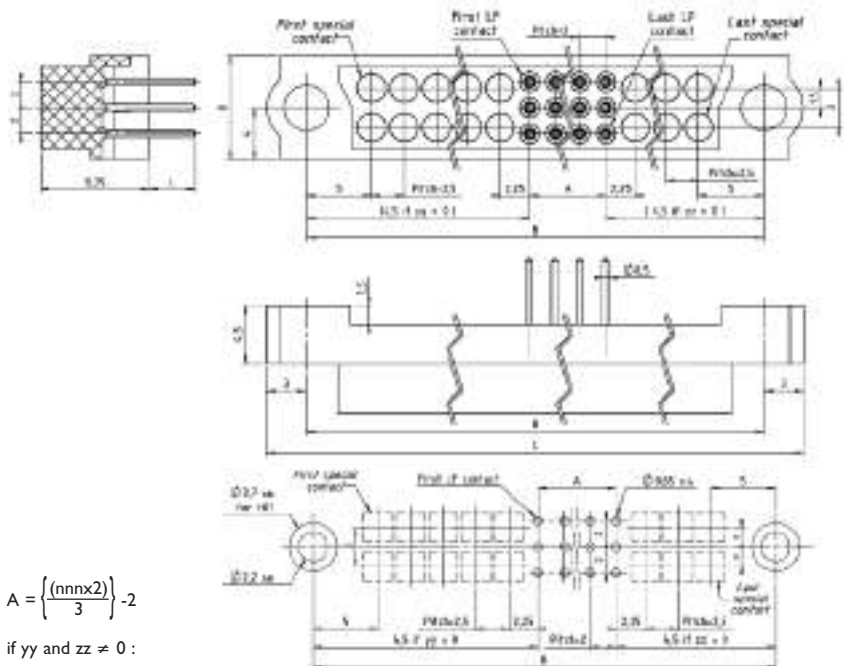
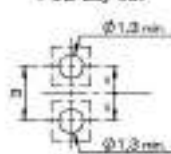
Type	L
Y	3
YL	4,5

Pattern for special contact :

HF 22-2300-xx PCB Lay-out



HP 22-4300-xx PCB Lay-out



$$A = \left\{ \frac{(nnn \times 2)}{3} \right\} - 2$$

if yy and zz $\neq$ 0 :

$$B = \left\{ \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\} \times 2,5 + 14,5 + A$$

if yy or zz = 0 :

$$B = \left\{ \left(\frac{(yy) \text{ or } (zz)}{2} \right) - 1 \right\} \times 2,5 + 11,75 + A$$

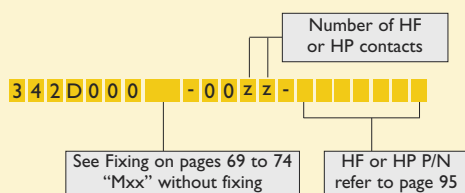
B max. = 87

C = B + 6

STRAIGHT PCB FOR HP/HF CONTACTS ONLY

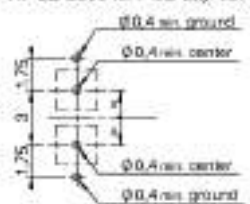


Part numbering :

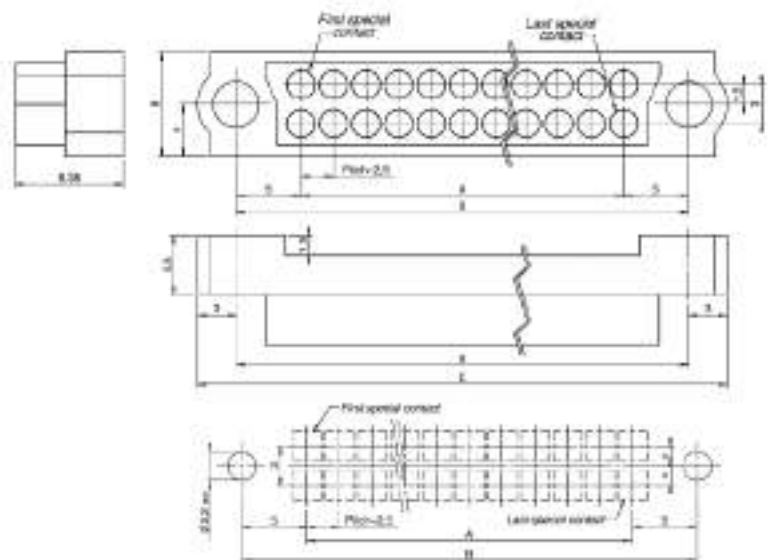
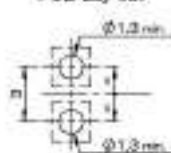


Pattern for special contact :

HF 22-2300-xx PCB Lay-out



HP 22-4300-xx PCB Lay-out



Special contacts min. : 04
max. : 64

$$A = \left(\frac{(zz \times 2,5)}{2} \right) - 2,5$$

B = A + 10

C = B + 6

Refer to dimension table on cover page

Fixing hardware for CMM SERIES 320/340

P X X X X

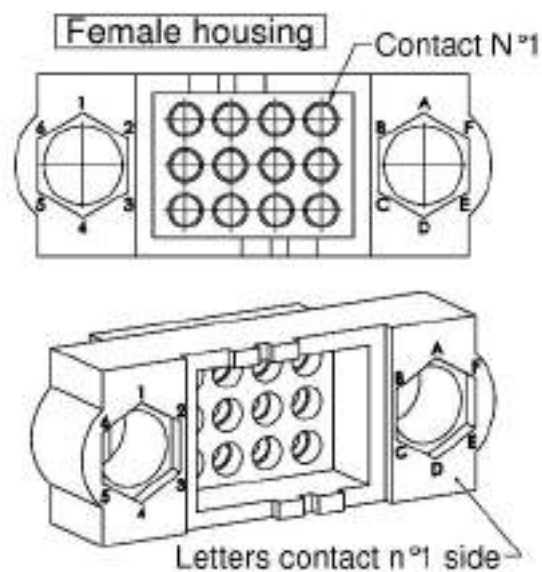
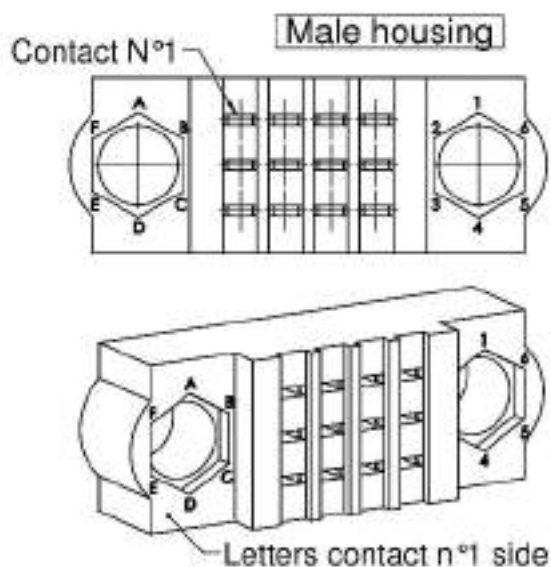
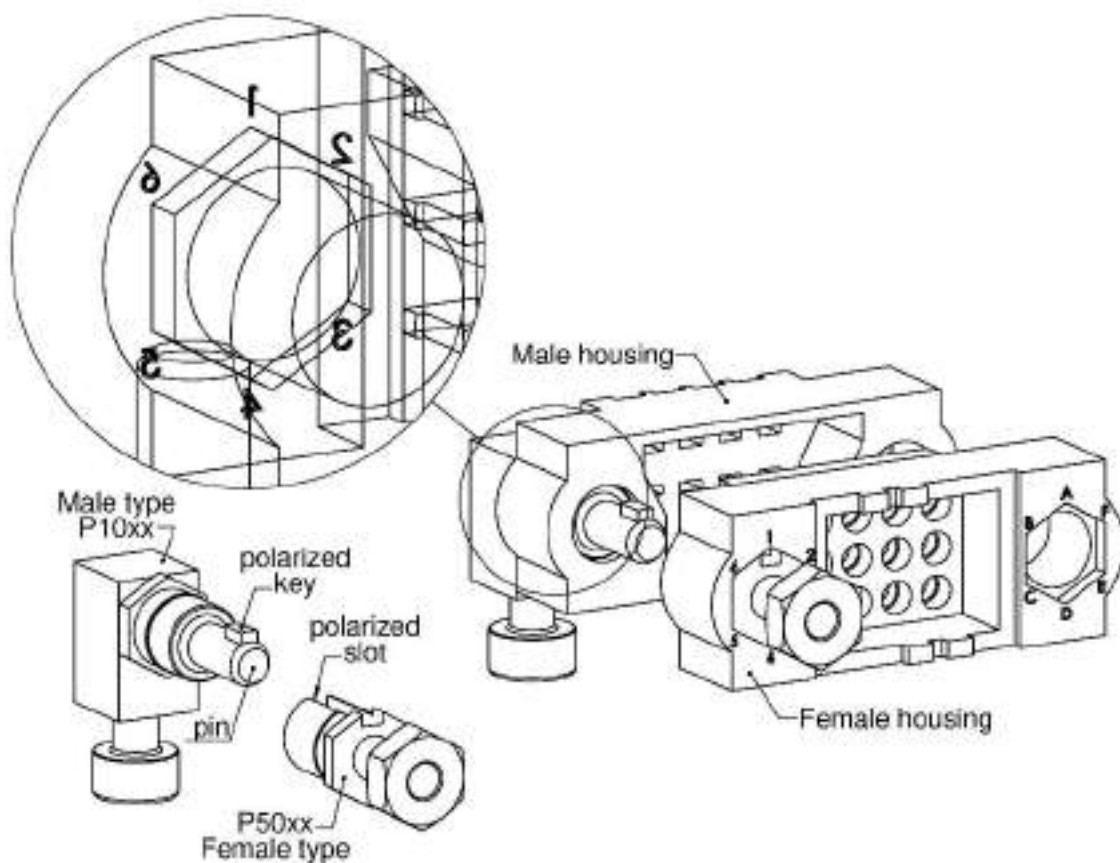
Male : 10 to 49
Female : 50 to 99

Letter code : A to F

Number code : 1 to 6

Letter coding : idem for male and female
Number coding : idem for male and female

Example : P10A1 mounting with P50A1



RACK INTERCONNECTION

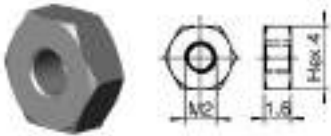
A Card extension

Make it a habit! Use easy & automatic configurators for CMM micro-connectors single part and mating-half construction on www.nicomatic.com.

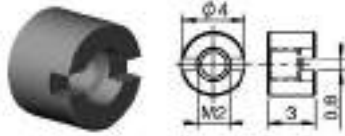
Fixing hardware for CMM 320/340

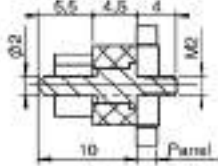
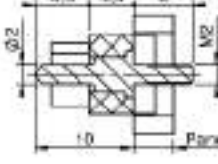
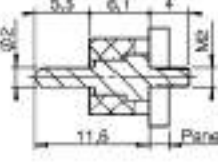
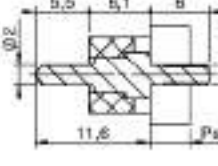
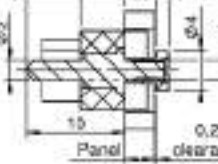
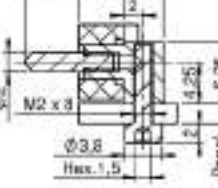
RACK INTERCONNECTION

HEXAGONAL NUT



STANDARD NUT

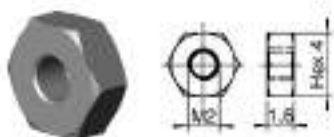


REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
M35 	Straight on PCB 0,8 min / 2 max 		M35 : CMM female : Y-S-C (D-E : straight) CMM male : S-C (E : straight) M35H : CMM female : Y (D : straight)
M35H 			
M39 	Straight on PCB 1,5 min / 4 max 		M39 : CMM female : YL-S-C (D-E : straight) CMM male : S-C (E : straight) M39H : CMM female : YL (D : straight)
M39H 			
M38 	Straight on PCB 0,8 min / 2 max 		M38 : CMM male : Y (D : straight) M38H : CMM male : Y (D : straight)
M38H 			
M36 	Straight on PCB 1,5 min / 4 max 		M36 : CMM male : YL (D : straight) M36H : CMM male : YL (D : straight)
M36H 			
M3xx xx = (PCB thickness + 0,2 mm) x 10 Example : for 3 mm PCB, the reference is M332 $(3 + 0,2) \times 10 = 32$ xx = 32	Straight on PCB with floating option 		M3xx : CMM female : S-C (E : straight) CMM male : S-C (E : straight)
H11	90° on PCB 4 max. 		H11 : CMM female : V-VL-S-C-E (D : 90°) CMM male : V-VL-R-S-C-E (D : 90°)

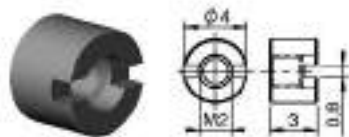
Fixing hardware for CMM 320/340

LOCKED INTERCONNECTION

HEXAGONAL NUT



STANDARD NUT



Recommended Torque : 0,2 N/m

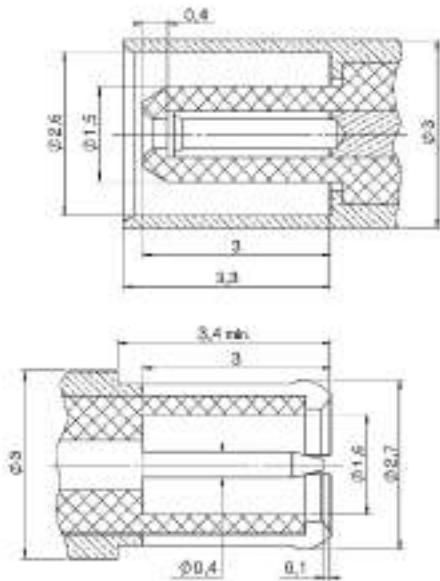
REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
F4XX xx = (PCB thickness + 0,2 mm) x 10 Example : for 3 mm PCB, the reference is F432 (3 + 0,2) x 10 = 32 xx = 32	Straight on PCB floating option 		F4XX : CMM female : S-C (E : straight) CMM male : S-C (E : straight)
F4I	Straight on PCB 		F4I : CMM female : Y-YL-S-C-E (D : straight) CMM male : S-C-E
F52 	Straight on PCB 0,8 min / 2 max 		F52 : CMM female : Y-S-C (D-E : straight) CMM male : S-C (E : straight) F52H : CMM female : Y (D : straight)
F52H 			
F45 	Straight on PCB 1,5 min / 4 max 		F45 : CMM female : YL-S-C (D-E : straight) CMM male : S-C (E : straight) F45H : CMM female : YL (D : straight)
F45H 			
F42 	Straight on PCB 0,8 min / 2 max 		F42 : CMM male : Y (D : straight) F42H : CMM male : Y (D : straight)
F42H 			
F44 	Straight on PCB 1,5 min / 4 max 		F44 : CMM male : YL (D : straight) F44H : CMM male : YL (D : straight)
F44H 			

HF : High Frequency contacts series 30

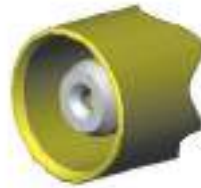
HP : High Power contacts series 30

FOR CMM 220 AND 320

INSERTION



HF female contact insertion



HF male contact insertion



PART NUMBERING FOR PCB HF & HP SPECIAL CONTACTS

These two digits are linked to the connector. Do not use them inside a CMM part number when loaded. All dash signs also disappear

Contact type :
3 = straight
4 = right angle
5 = SMT 90°
6 = SMT straight

Termination length
"CMM" = 3mm
"45" = 4.5mm
"12" = 3mm (Female CMM320)
"14" = 4.5mm (Female CMM320)
"..."

Coaxmatic 30™
1 = male coax
2 = female coax
3 = high power male
4 = high power female

30 - 00 -

PART NUMBERING FOR HF & HP SPECIAL CONTACTS ON-CABLE

These two digits are linked to the connector. Do not use them inside a CMM part number when loaded. All dash signs also disappear

For HF contacts only Inner contact
Z = solder
S = crimp

For HF contacts only Shield
Z = solder
S = crimp

Contact type :
3 = straight
4 = right angle

Use these 2 digits only with 1.2mm dia. cables mounted on a HF straight contact
Crimp shield type: 01 = refer to page 81
02 = refer to page 81

Special contacts :
1 = male HF
2 = female HF
3 = male HP
4 = female HP

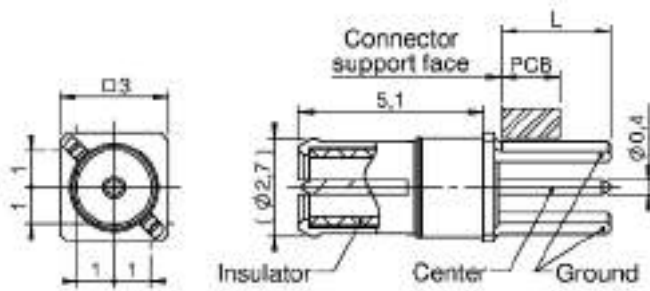
30 - - - - - 75 -

Contact termination:
10 = for HP 10A
15 = for HP 15A
20 = for HP 20A
12 = for HF cable 1.2mm
20 = for HF cable 2mm
24 = for HF cable 2.4mm
26 = for HF cable 2.6mm
47 = for HF cable type UT47
85 = for HF cable type UT85
"..."

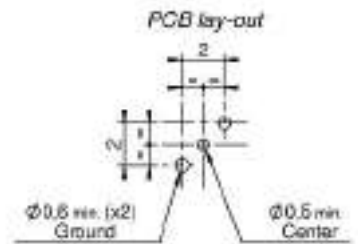
Use these 2 digits only with 75 Ohm cables

HF : High Frequency contact series 30

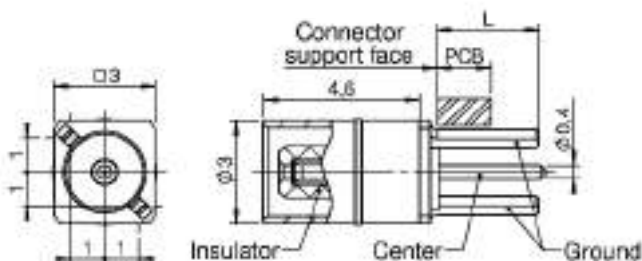
MALE STRAIGHT ON PCB P/N 30-1300-xx



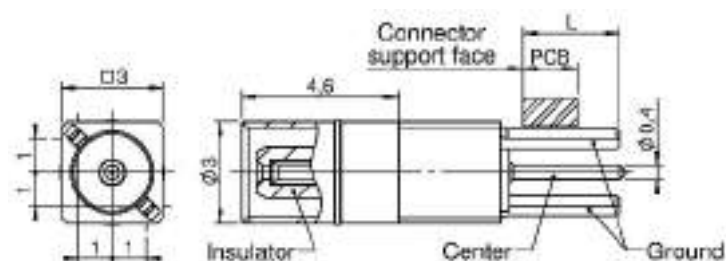
Loaded	Length L
I300CMM	3 mm
I30045	4,5 mm



FEMALE STRAIGHT ON PCB P/N 30-2300-xx



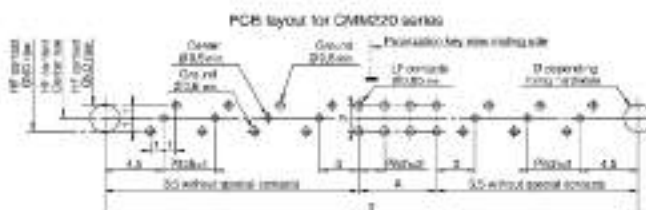
Loaded	Length L
2300CMM	3 mm
230045	4,5 mm



Loaded	Length L
230012	3 mm
230014	4,5 mm



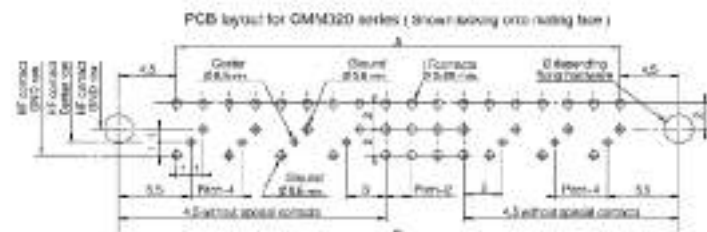
PCB LAYOUT 30-1300-xx & 30-2300-xx



$$A = nn - 2$$

$$B = ((yy + zz) \times 4) + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$



$$A = \left[\frac{((yy + zz) \times 4 + nn) \times 2}{3} \right] - 2$$

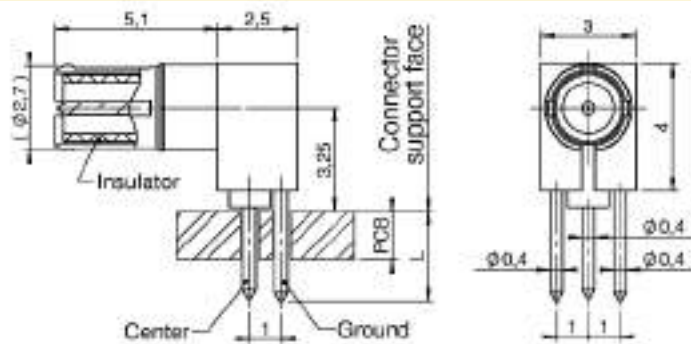
$$B = A + 9$$

$$B \text{ max.} = 87$$

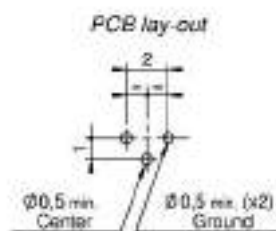


HF : High Frequency contact series 30

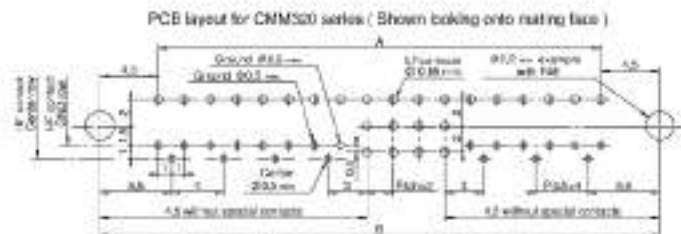
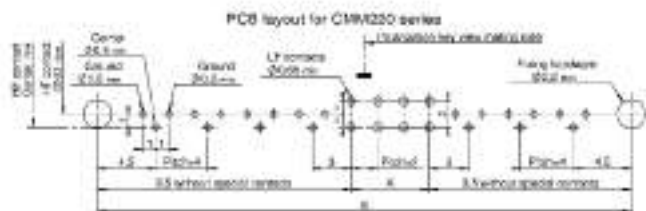
MALE 90° PCB P/N 30-1400-xx



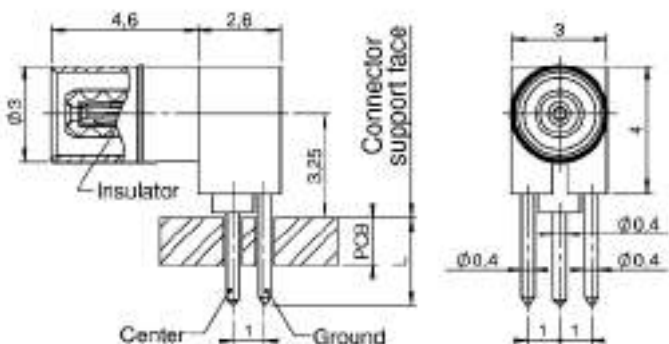
Loaded	Length L
I400CMM	3 mm
I40045	4,5 mm



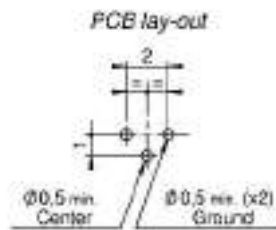
PCB LAYOUT 30-1400-xx



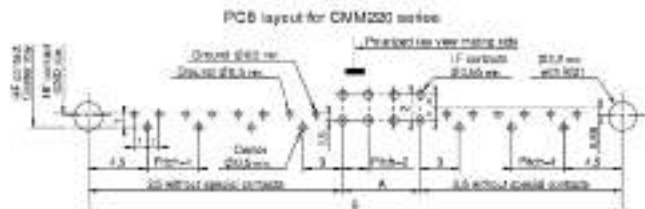
FEMALE 90° PCB P/N 30-2400-xx



Loaded	Length L
2400CMM	3 mm
240045	4,5 mm



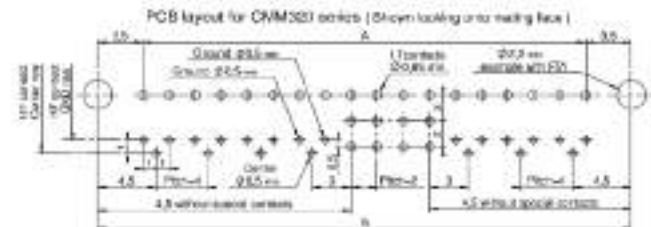
PCB LAYOUT 30-2400-xx



$$A = nn - 2$$

$$B = ((yy + zz) \times 4) + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$



$$A = \left[\frac{((yy + zz) \times 4 + nn) \times 2}{3} \right] - 2$$

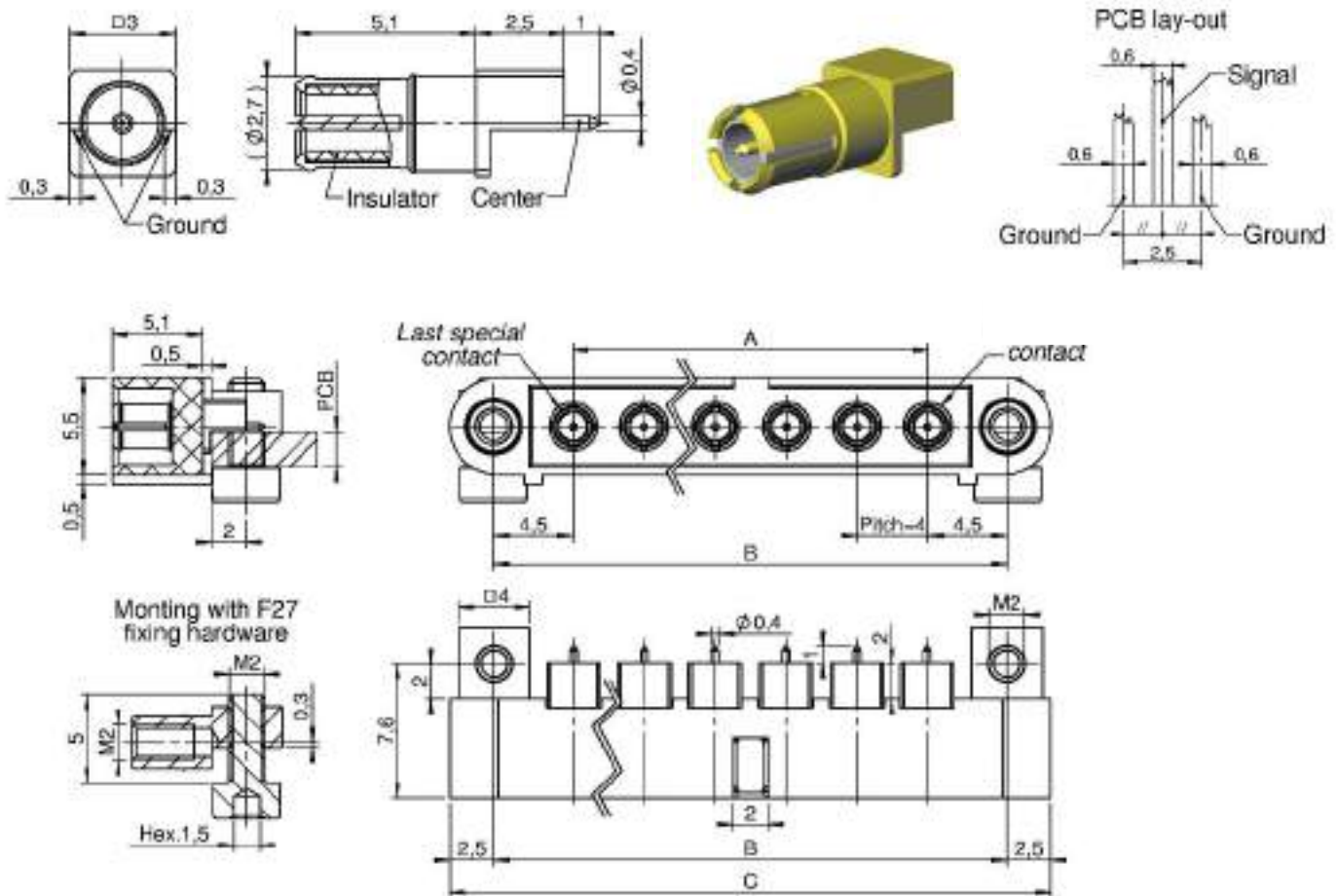
$$B = A + 9$$

$$B \text{ max.} = 87$$

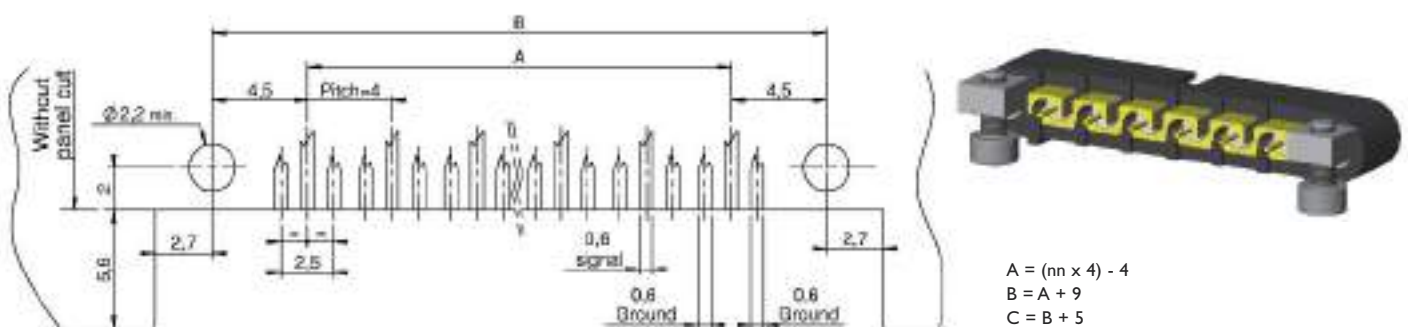


HF : High Frequency contact series 30

MALE 90° SMT FOR CMM 220 SERIES (WITHOUT CONTACTS) P/N 30-1500-CMM



PCB LAYOUT 30-1500-CMM

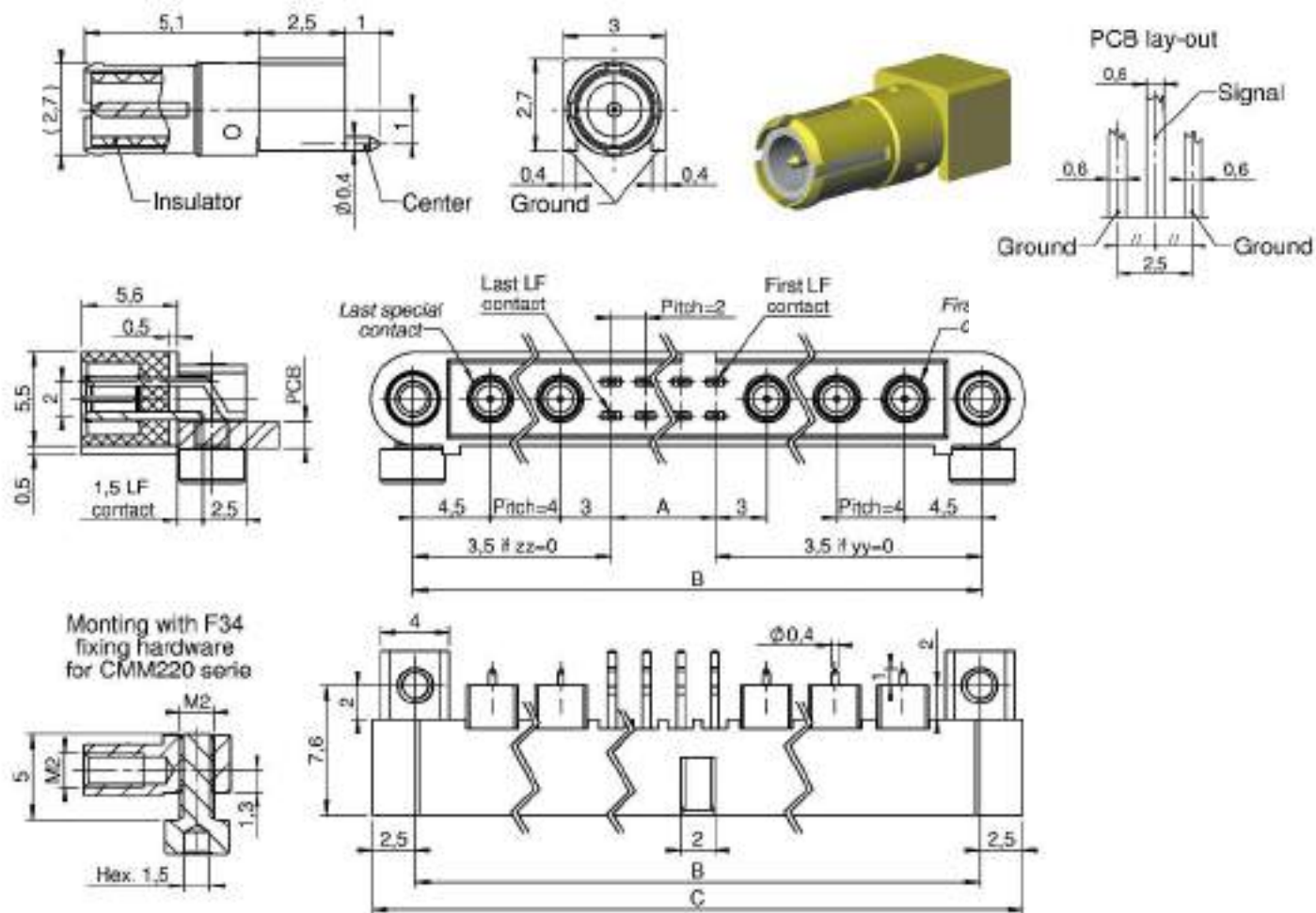


PART NUMBERING

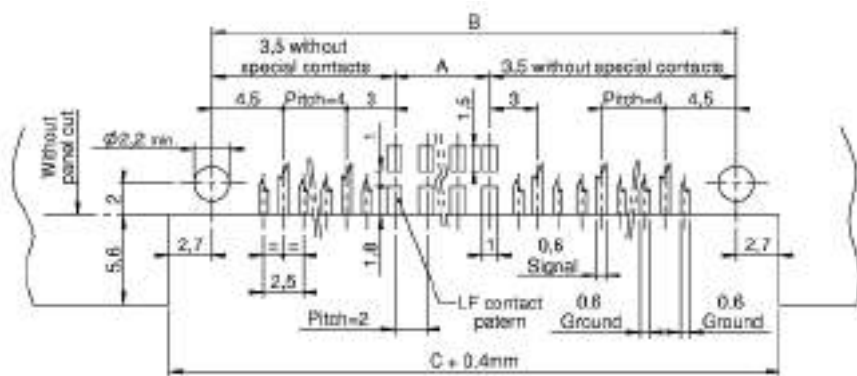
221D00 F27 -00 Z Z -1500 CMM
 Number of contacts

HF : High Frequency contact series 30

MALE 90° SMT FOR CMM 220 SERIES P/N 30-1500-12



PCB LAYOUT 30-1500-12



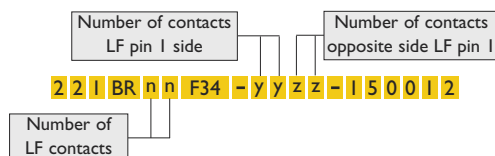
$$A = nn - 2$$

$$B = (yy + zz) \times 4 + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$

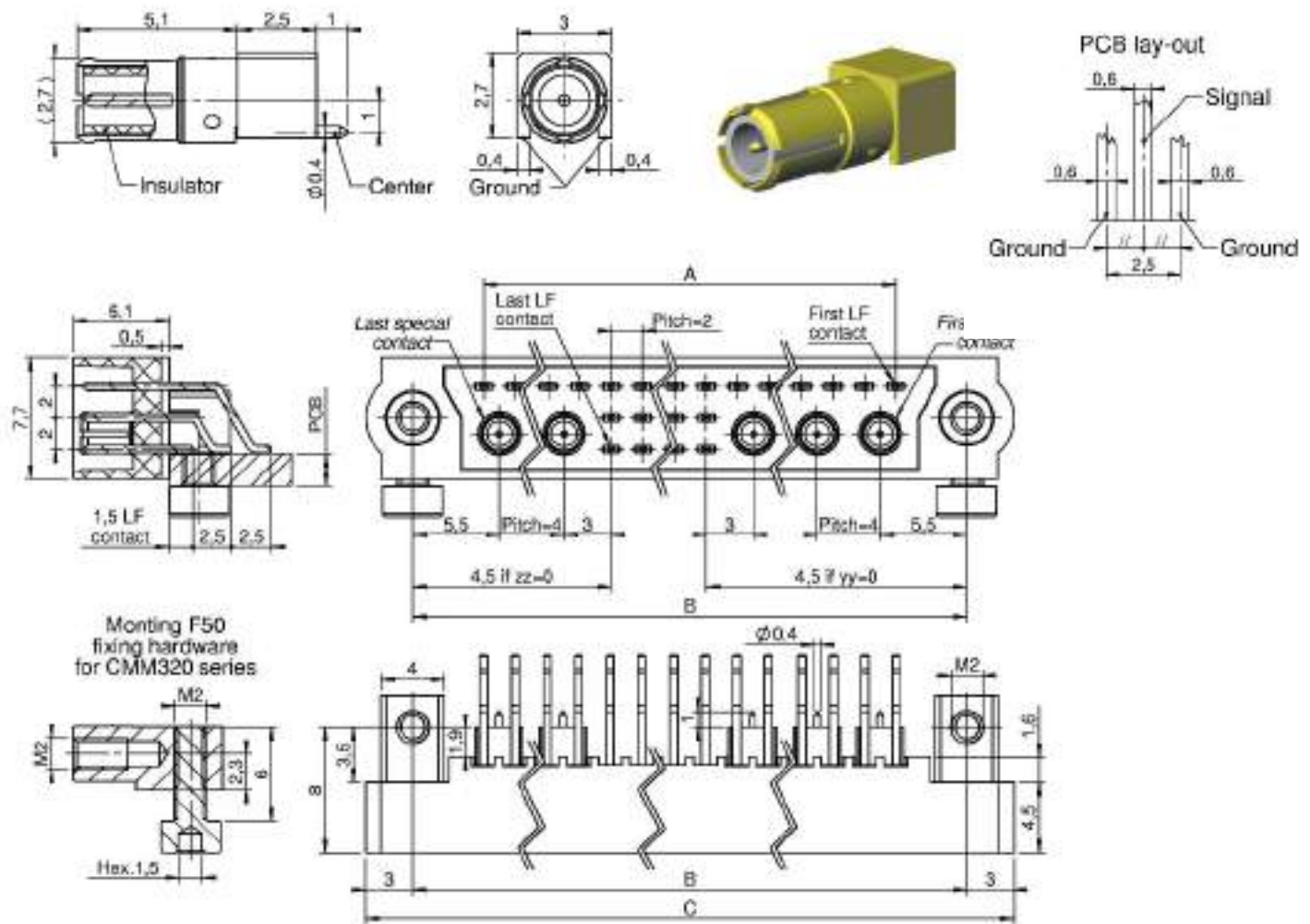
$$C = B + 5$$

PART NUMBERING

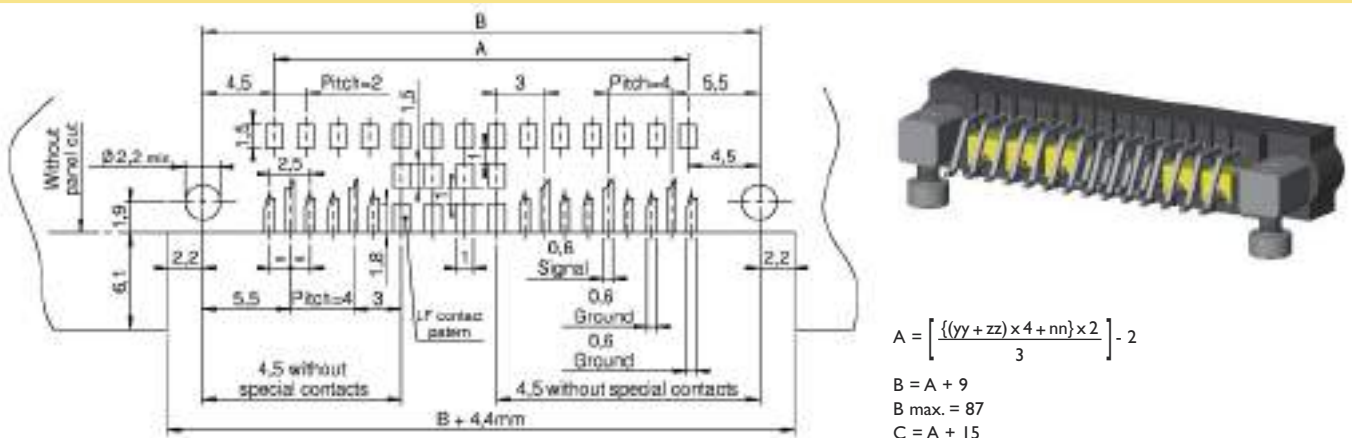


HF : High Frequency contact series 30

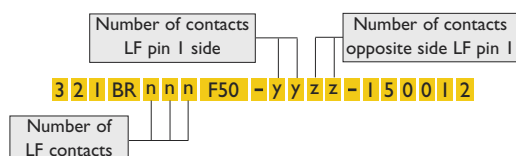
MALE 90° SMT FOR CMM 320 SERIES P/N 30-1500-12



PCB LAYOUT 30-1500-CMM

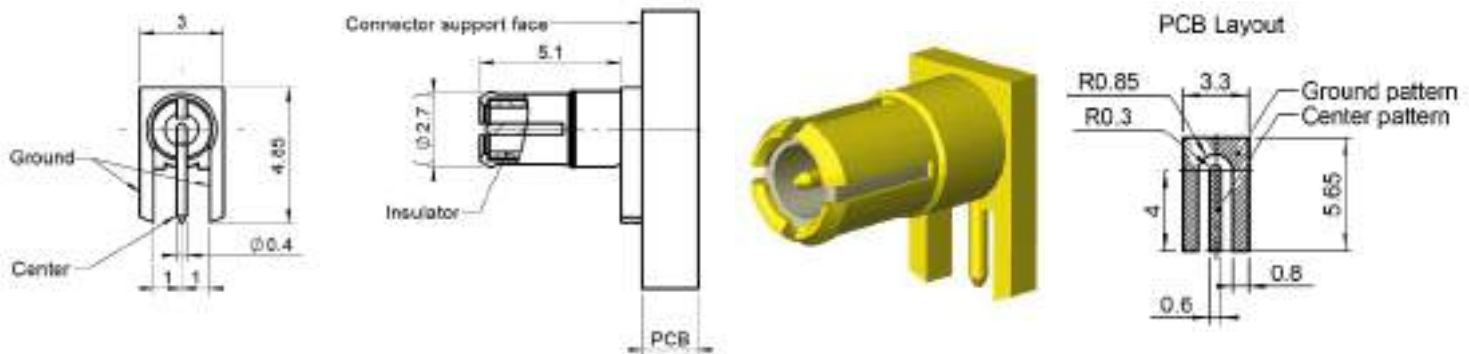


PART NUMBERING

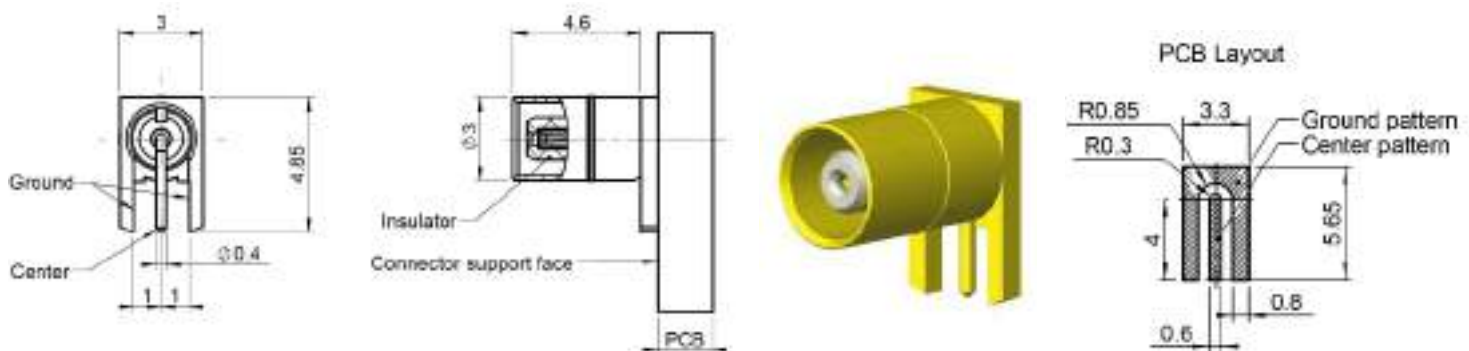


HF : High Frequency contact series 30

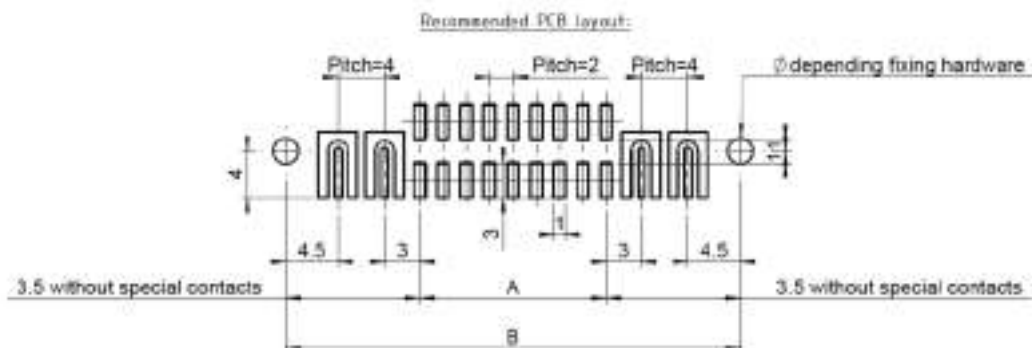
MALE STRAIGHT SMT FOR CMM 220 SERIES P/N 30-1600



FEMALE STRAIGHT SMT FOR CMM 220 SERIES P/N 30-2600



PCB LAYOUT 30-1600 & 30-2600



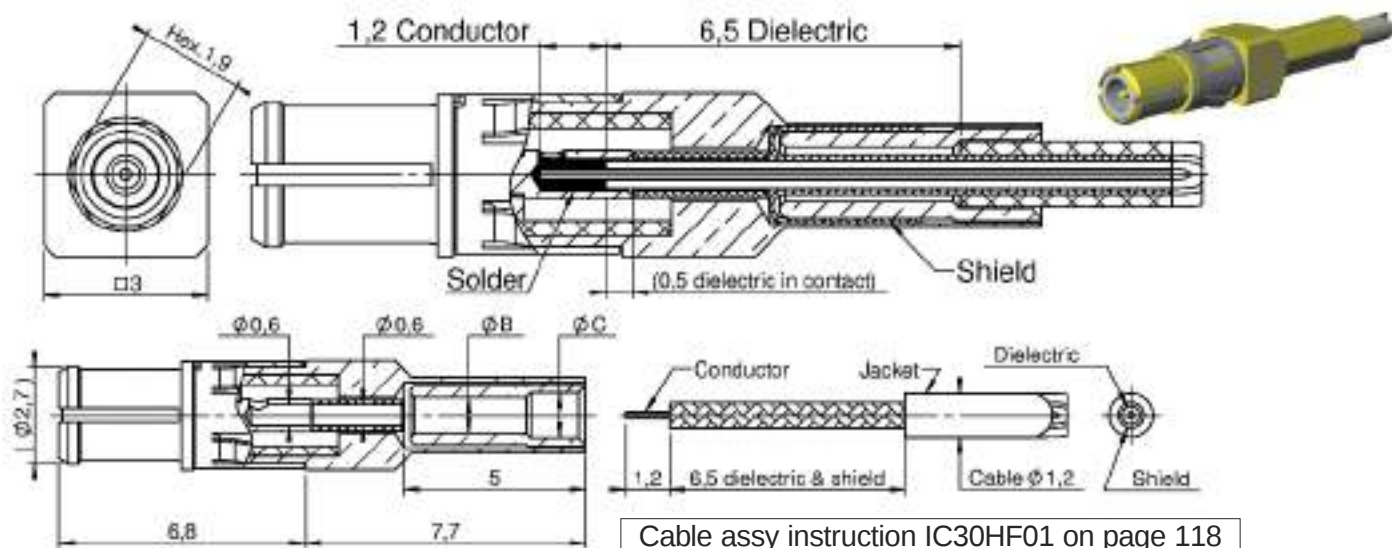
$$A = nn - 2$$

$$B = [(yy + zz)(x4) + A + 7]$$



HF : High Frequency contact series 30

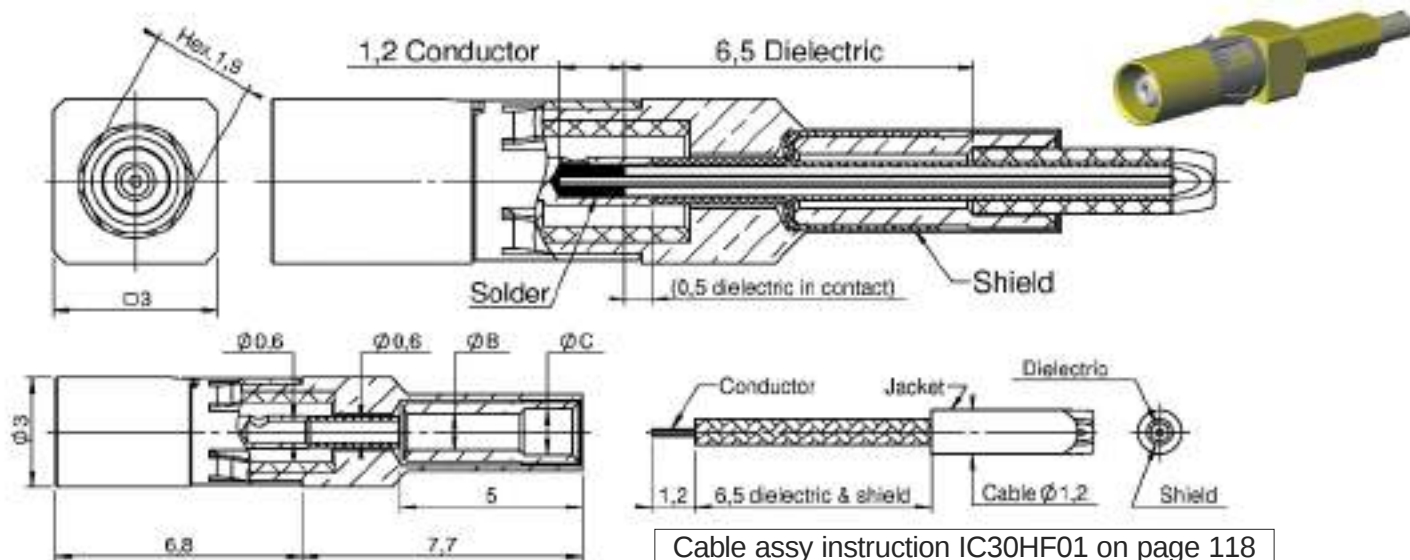
MALE STRAIGHT CRIMP ON CABLES Ø 1.2 P/N 30-1312-ZS



Loaded	Unloaded	ØB	ØC	
I312ZS01	30-1312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
I312ZS02	30-1312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50



FEMALE STRAIGHT CRIMP ON CABLES Ø 1.2 P/N 30-2312-ZS

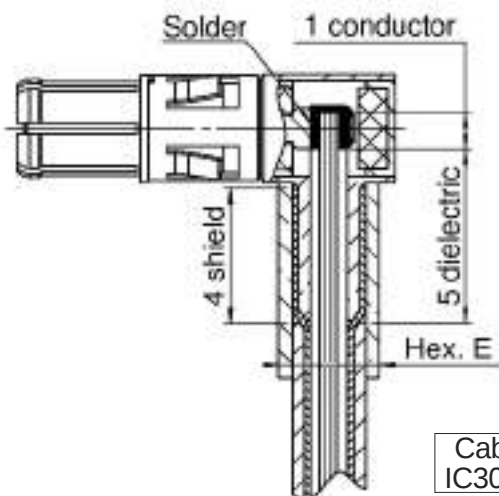


Loaded	Unloaded	ØB	ØC	
2312ZS01	30-2312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
2312ZS02	30-2312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50



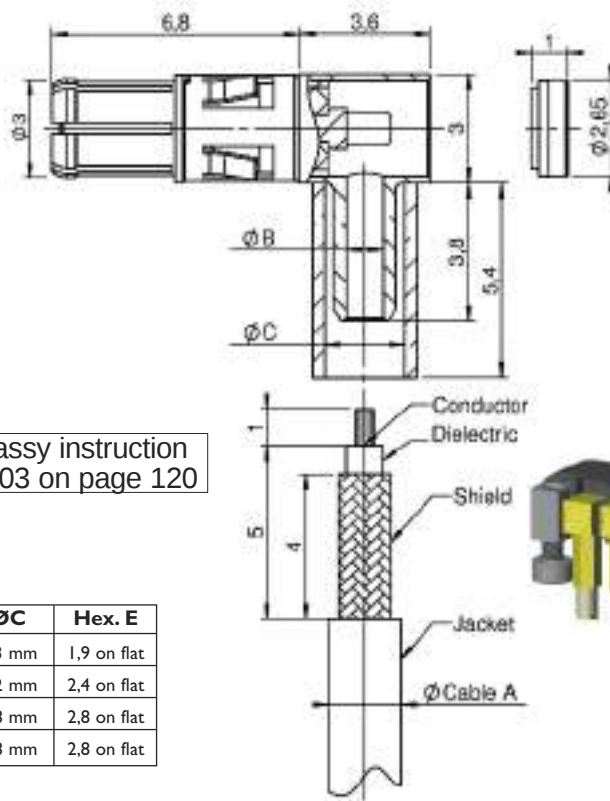
HF : High Frequency contact series 30

MALE 90° CRIMP ON CABLE P/N 30-14xx-ZS

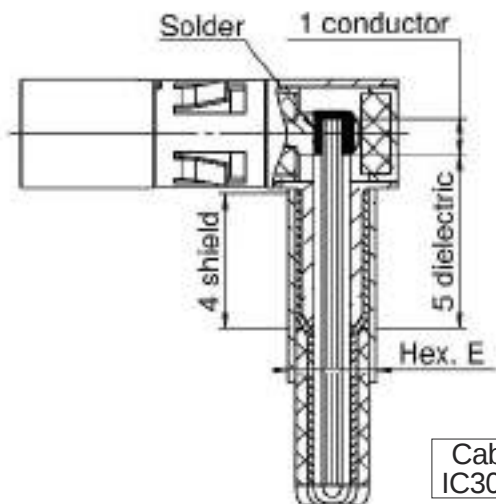


Cable assy instruction
IC30HF03 on page 120

Loaded	Unloaded	Cable A	ØB	ØC	Hex. E
I412ZS	30-I412-ZS	Ø 1,2	0,7 mm	1,3 mm	1,9 on flat
I420ZS	30-I420-ZS	Ø 2,0	1 mm	2,2 mm	2,4 on flat
I424ZS	30-I424-ZS	Ø 2,4	1,5 mm	2,8 mm	2,8 on flat
I426ZS	30-I426-ZS	Ø 2,7	1,7 mm	2,8 mm	2,8 on flat

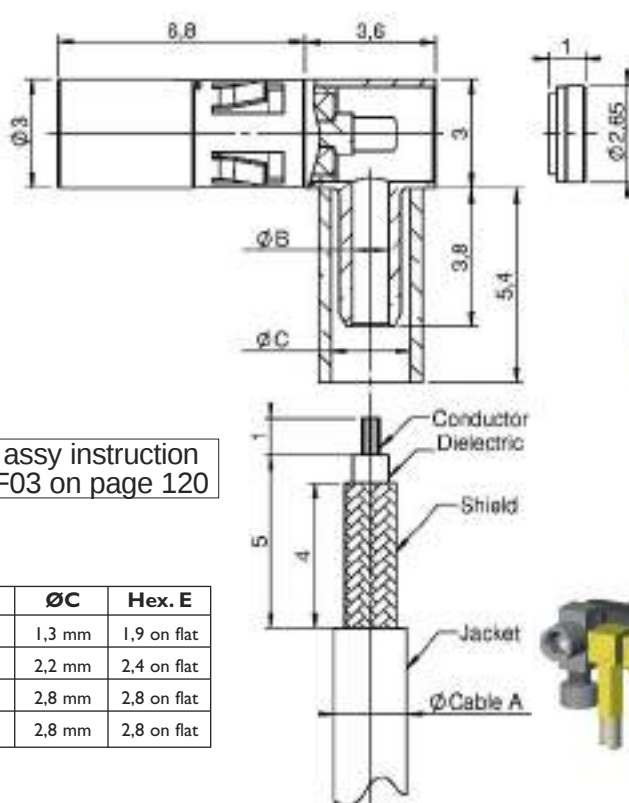


FEMALE 90° CRIMP ON CABLE P/N 30-24xx-ZS



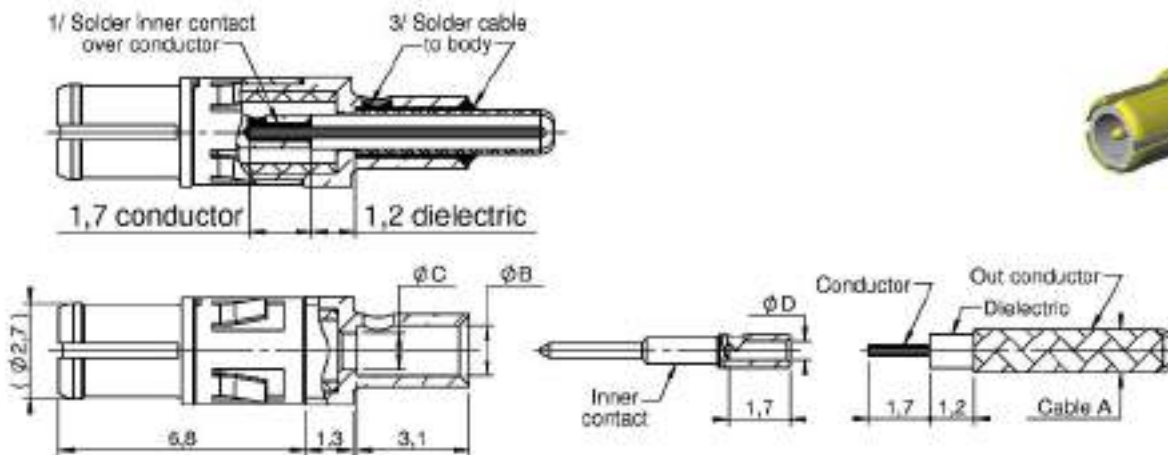
Cable assy instruction
IC30HF03 on page 120

Loaded	Unloaded	Cable A	ØB	ØC	Hex. E
2412ZS	30-2412-ZS	Ø 1,2	0,7 mm	1,3 mm	1,9 on flat
2420ZS	30-2420-ZS	Ø 2,0	1 mm	2,2 mm	2,4 on flat
2424ZS	30-2424-ZS	Ø 2,4	1,5 mm	2,8 mm	2,8 on flat
2426ZS	30-2426-ZS	Ø 2,7	1,7 mm	2,8 mm	2,8 on flat



HF : High Frequency contact series 30

MALE STRAIGHT ON CABLE SEMI-RIGID P/N 30-13xx-ZZ



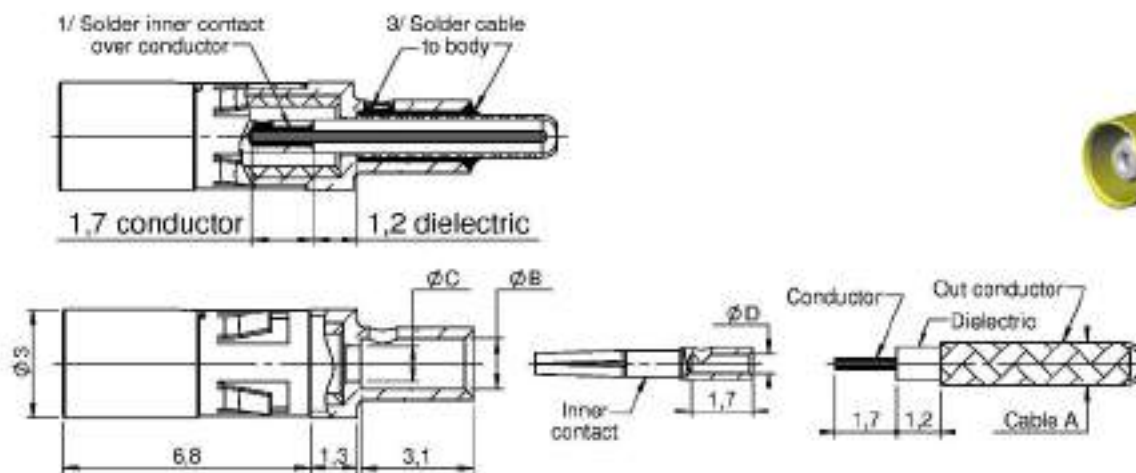
MONTING PROCESS :

- 1/ Solder inner contact over conductor.
- 2/ Push cable with inner contact in body.
- 3/ Solder cable to body. (Tooling reference C14777)

Loaded	Unloaded	Cable A	ØB	ØC	ØD
I347ZZ	30-I347-ZZ	UT 47	1,4 mm	1 mm	0,5 mm
I385ZZ	30-I385-ZZ	UT 85	2,3 mm	1,7 mm	0,6 mm



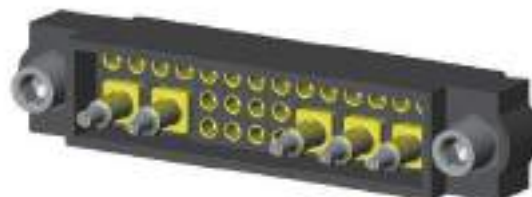
FEMALE STRAIGHT ON CABLE SEMI-RIGID P/N 30-23xx-ZZ



MONTING PROCESS :

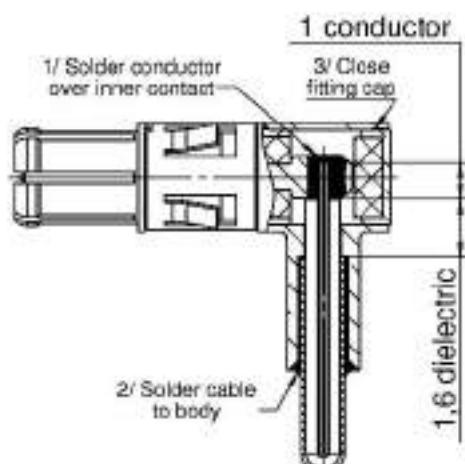
- 1/ Solder inner contact over conductor.
- 2/ Push cable with inner contact in body.
- 3/ Solder cable to body. (Tooling reference C14777)

Loaded	Unloaded	Cable A	ØB	ØC	ØD
2347ZZ	30-2347-ZZ	UT 47	1,4 mm	1 mm	0,5 mm
2385ZZ	30-2385-ZZ	UT 85	2,3 mm	1,7 mm	0,6 mm



HF : High Frequency contact series 30

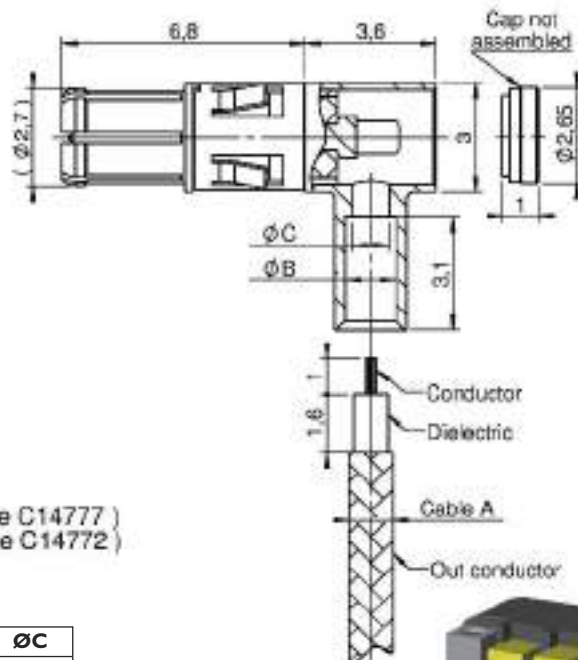
MALE 90° ON CABLE SEMI-RIGID P/N 30-14xx-ZZ



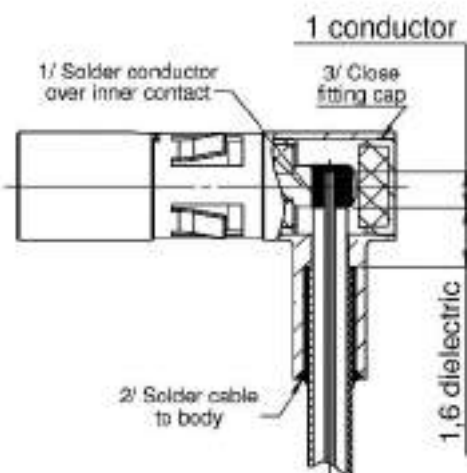
MONTING PROCESS :

- 1/ Solder conductor over inner contact.
- 2/ Solder cable to body. (Tooling reference C14777)
- 3/ Assembly the cap to body (Tooling reference C14772)

Loaded	Unloaded	Cable A	ØB	ØC
I447ZZ	30-I447-ZZ	UT 47	1,4 mm	1 mm
I485ZZ	30-I485-ZZ	UT 85	2,3 mm	1,7 mm



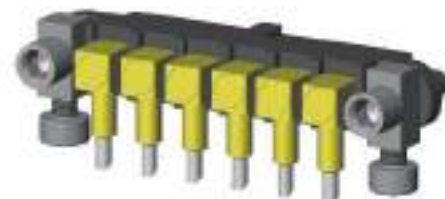
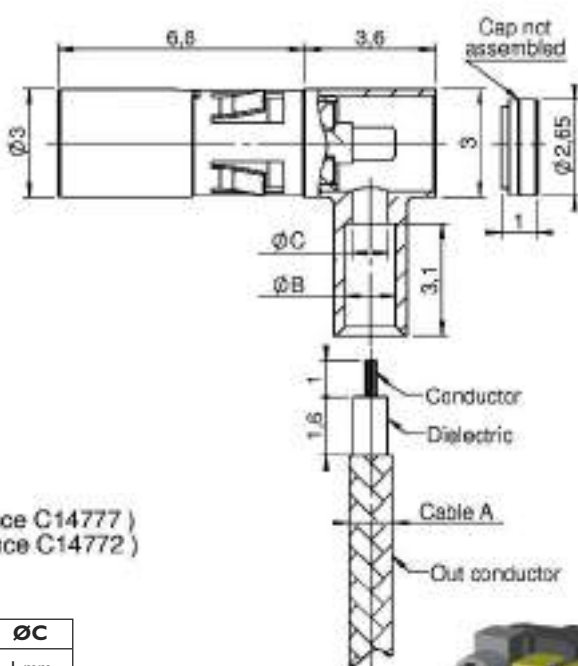
FEMALE 90° ON CABLE SEMI-RIGID P/N 30-24xx-ZZ



MONTING PROCESS :

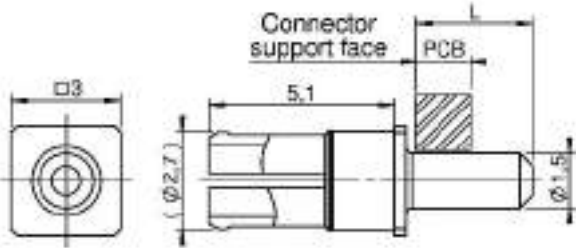
- 1/ Solder conductor over inner contact.
- 2/ Solder cable to body. (Tooling reference C14777)
- 3/ Assembly the cap to body (Tooling reference C14772)

Loaded	Unloaded	Cable A	ØB	ØC
2447ZZ	30-2447-ZZ	UT 47	1,4 mm	1 mm
2485ZZ	30-2485-ZZ	UT 85	2,3 mm	1,7 mm



HP : High Power contact series 30

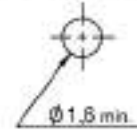
MALE STRAIGHT ON PCB P/N 30-3300-XX



Loaded	Length L
3300CMM	3 mm
330045	4,5 mm

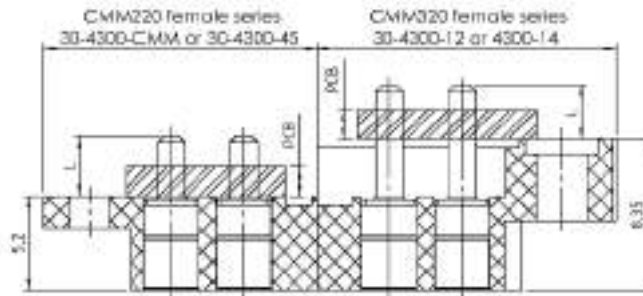
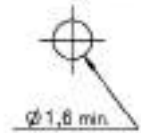


PCB lay-out

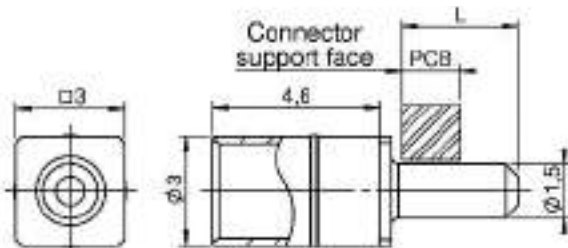
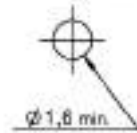


FEMALE STRAIGHT ON PCB P/N 30-4300-XX

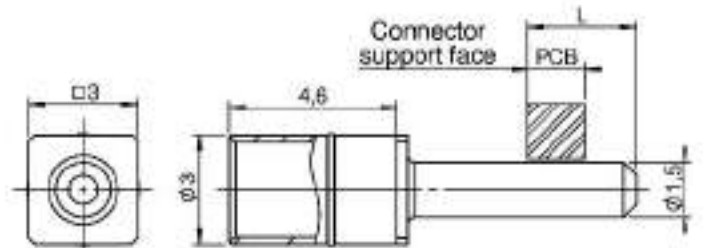
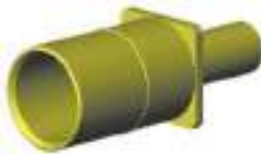
PCB lay-out



PCB lay-out



Loaded	Length L
4300CMM	3 mm
430045	4,5 mm

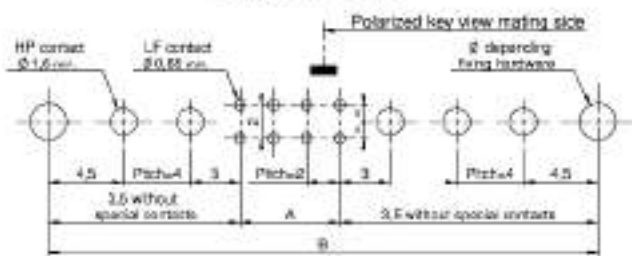


Loaded	Length L
430012	3 mm
430014	4,5 mm



PCB LAYOUT 30-3300-XX & 30-4300-XX

PCB lay-out 220 series



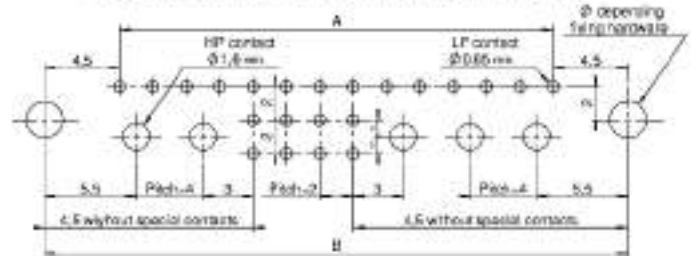
$$A = nn - 2$$

$$B = ((yy + zz) \times 4) + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$



PCB lay-out for CMM320 series (Shown looking onto mating face)



$$A = \left[\frac{((yy + zz) \times 4 + nn) \times 2}{3} \right] - 2$$

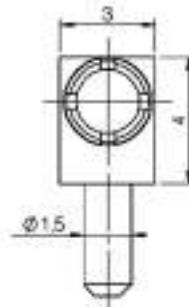
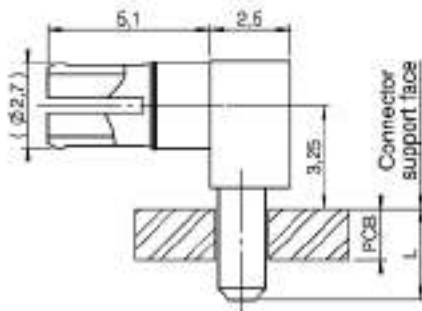
$$B = A + 9$$

$$B \text{ max.} = 87$$



HP : High Power contact series 30

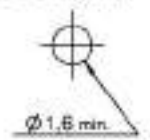
MALE 90° PCB P/N 30-3400-XX



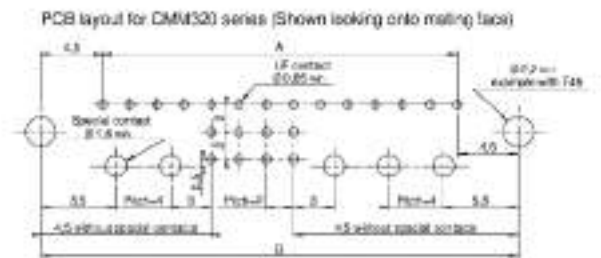
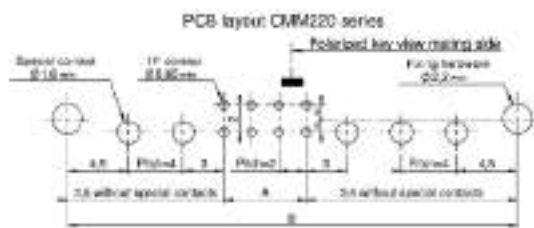
Loaded	Length L
3400CMM	3 mm
340045	4,5 mm



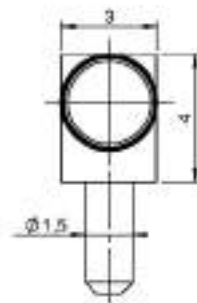
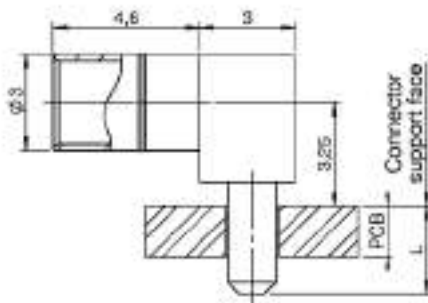
PCB lay-out



PCB LAYOUT 30-3400-XX



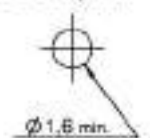
FEMALE 90° PCB P/N 30-4400-XX



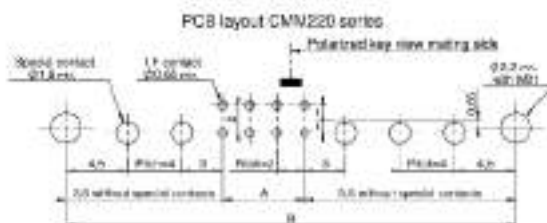
Loaded	Length L
4400CMM	3 mm
440045	4,5 mm



PCB lay-out



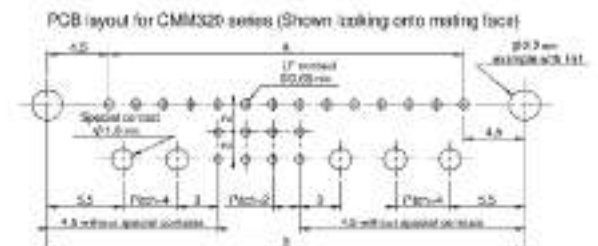
PCB LAYOUT 30-4400-XX



$$A = nn - 2$$

$$B = \{(yy + zz) \times 4\} + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$



$$A = \left[\frac{\{(yy + zz) \times 4 + nn\} \times 2}{3} \right] - 2$$

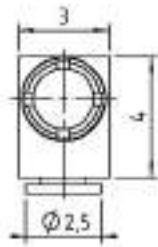
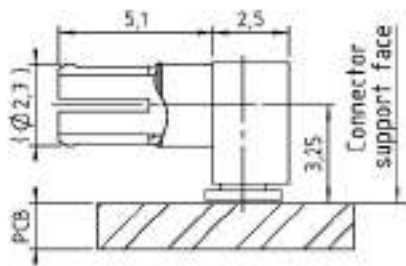
$$B = A + 9$$

$$B \text{ max.} = 87$$

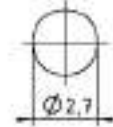


HP : High Power contact series 30

MALE 90° SMT 30-3500

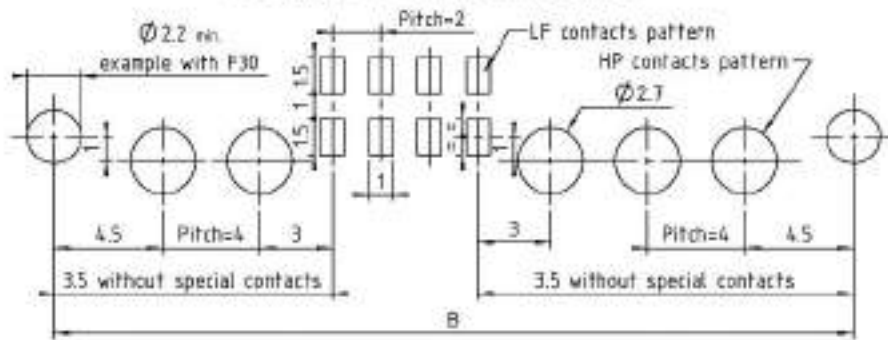


PCB layout

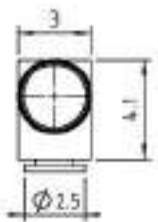
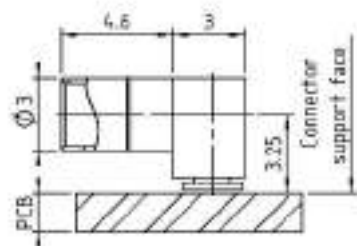


PCB LAYOUT 30-3500

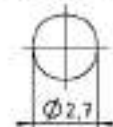
PCB layout for CMM220 male series



FEMALE 90° SMT 30-4500

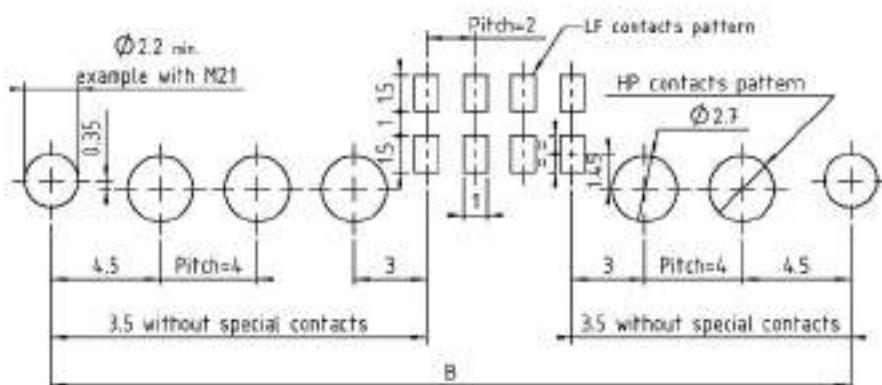


PCB layout



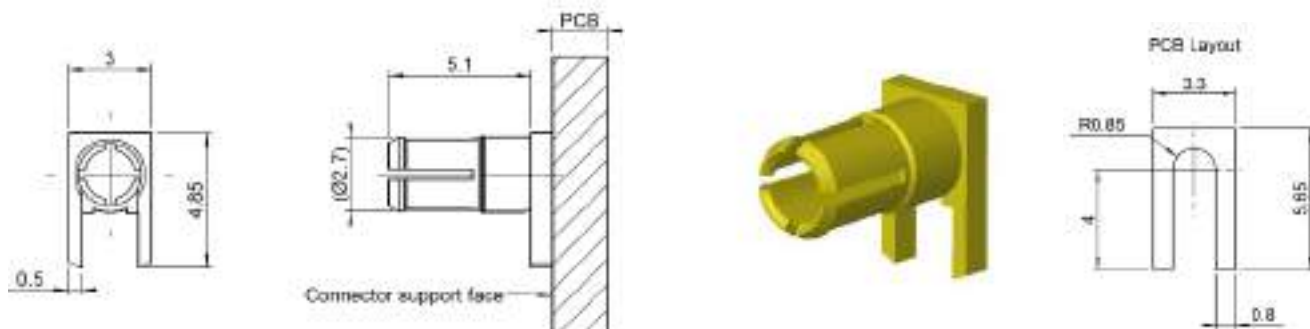
PCB LAYOUT 30-4500

PCB layout for CMM220 female series

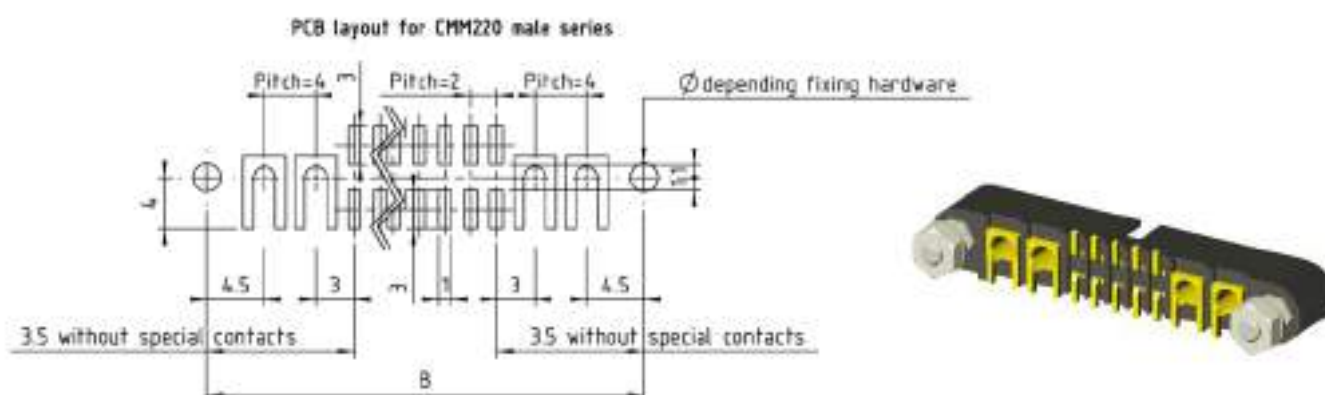


HP : High Power contact series 30

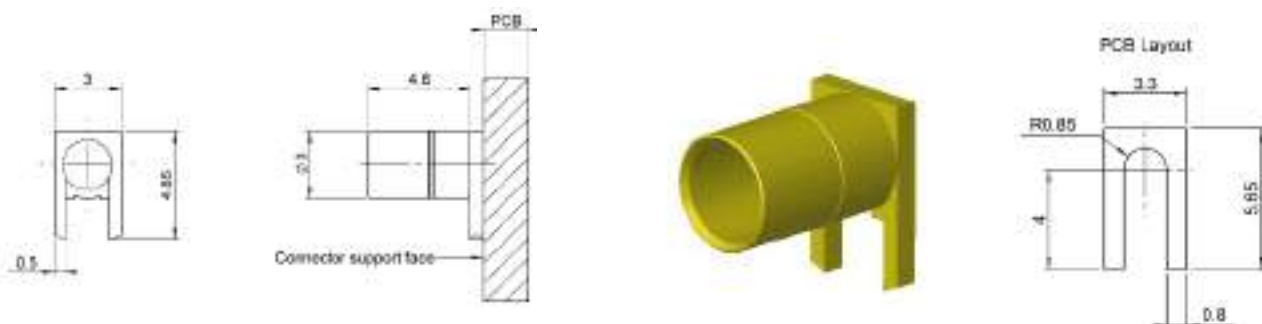
MALE STRAIGHT SMT P/N 30-3600



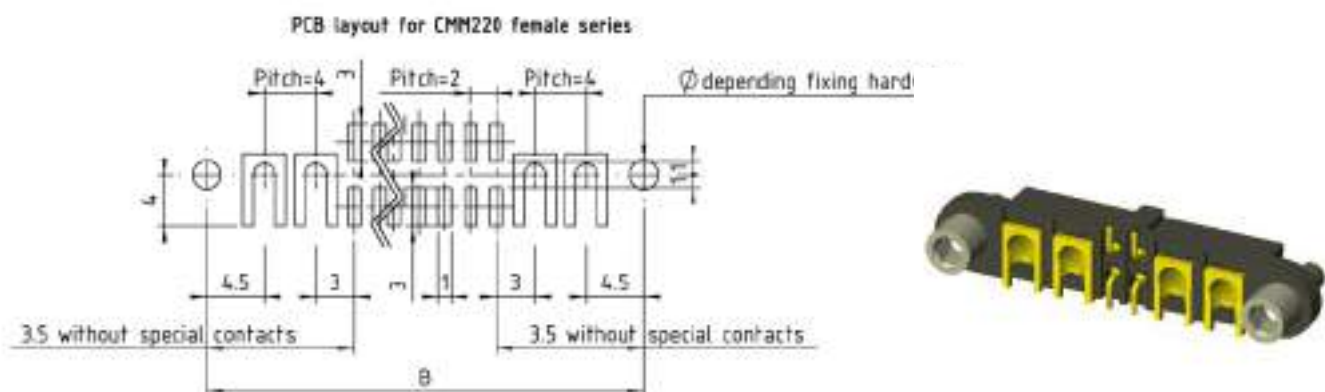
PCB LAYOUT 30-3600



FEMALE STRAIGHT SMT P/N 30-4600

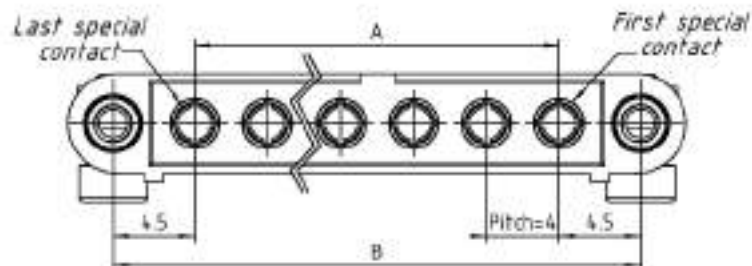
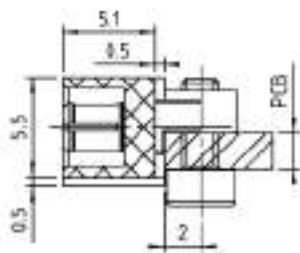
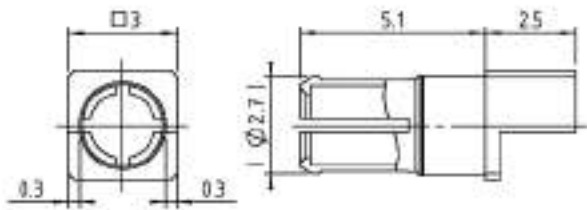


PCB LAYOUT 30-4600

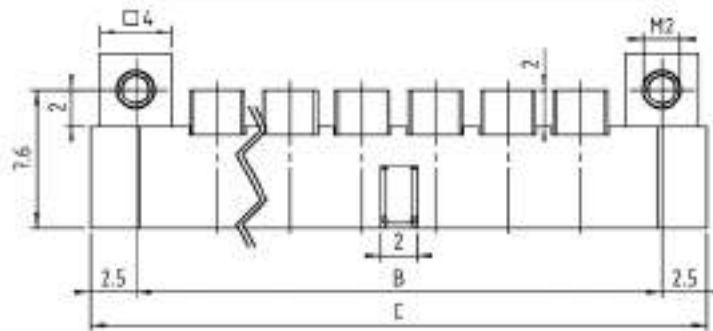
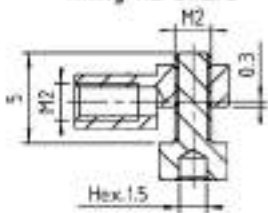


HP : High Power contact series 30

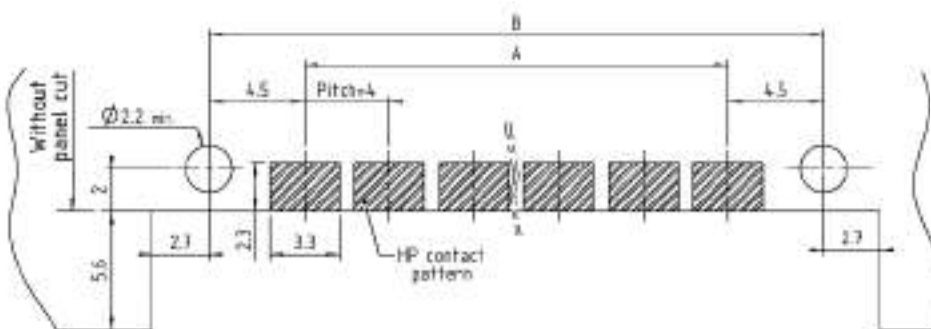
MALE 90° SMT CARD EDGE (WITHOUT LF CONTACTS) 30-3500-CMM



Mounting with F27
fixing hardware



PCB LAYOUT 30-3500-CMM



$$\begin{aligned} A &= (nn \times 4) - 4 \\ B &= A + 9 \\ C &= B + 5 \end{aligned}$$

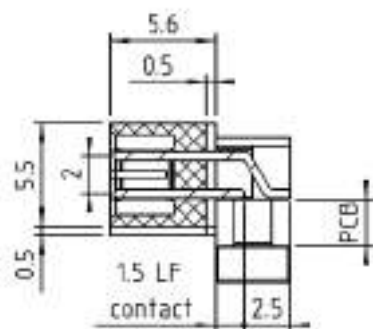
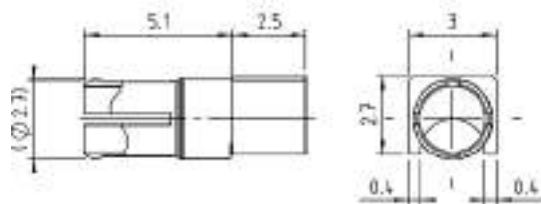
PART NUMBERING

2 2 1 D 0 0 F27 - 0 0 z z - 3 5 0 0 CMM

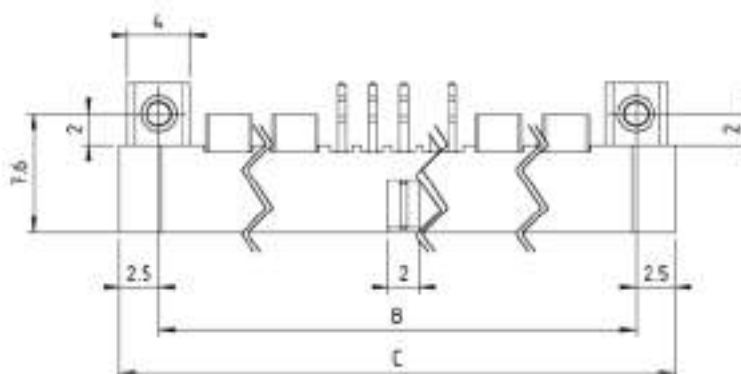
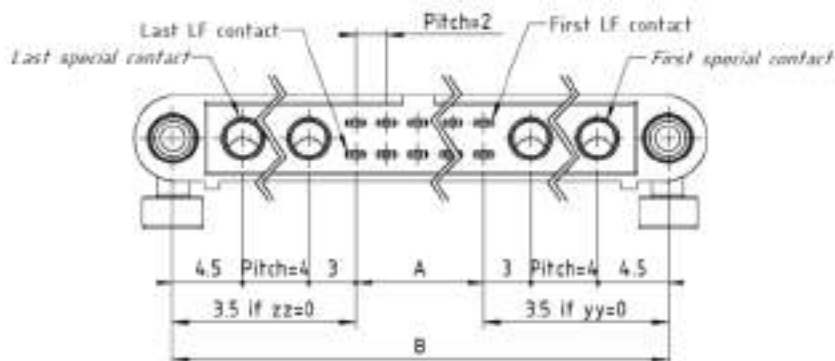
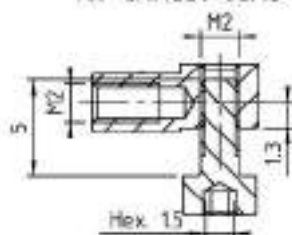
Number of contacts

HP : High Power contact series 30

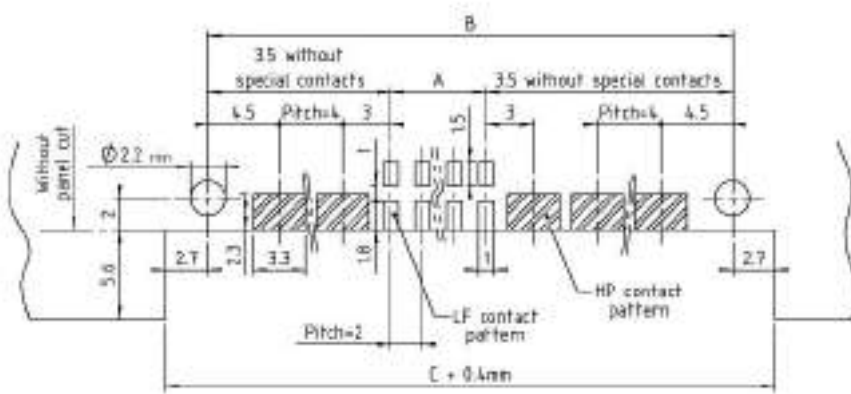
MALE 90° SMT CARD EDGE 30-3500-12 (FOR CMM 220 SERIES)



Mounting with F34
fixing hardware
for CMM220 serie



PCB LAYOUT 30-3500-12



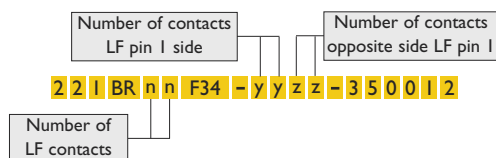
$$A = nn - 2$$

$$B = ((yy + zz) \times 4) + A + 7$$

$$B \text{ max.} = 65 \text{ mm}$$

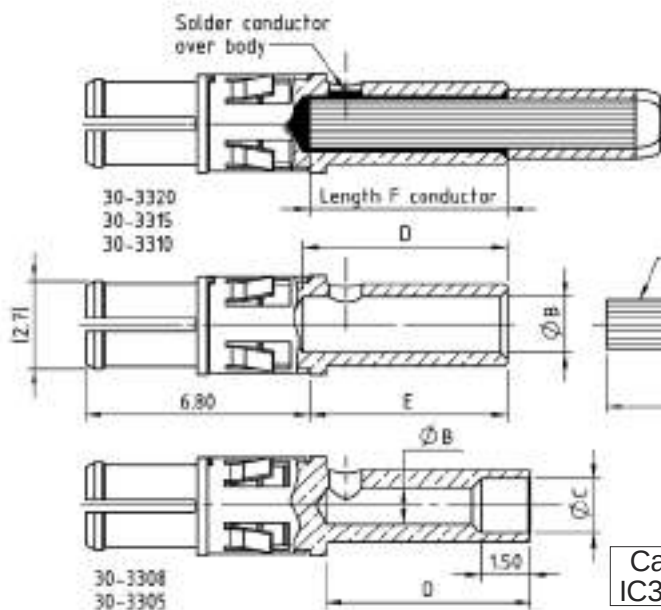
$$C = B + 5$$

PART NUMBERING



HP : High Power contact series 30

MALE STRAIGHT ON CABLE P/N 30-33xx (solder or crimp)

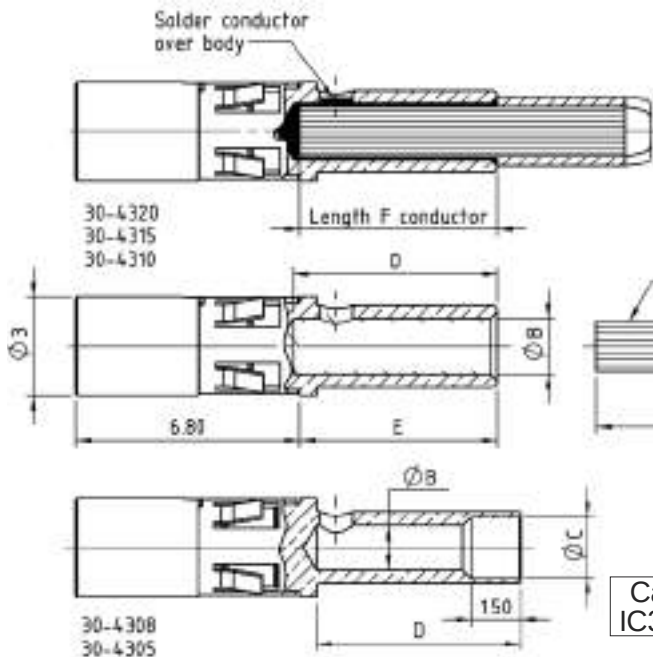


Cable assy instruction
IC30HP02 on page 122

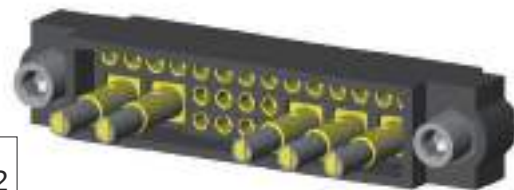


Loaded	Unloaded	Ampere	Cable A				ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimp by HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16	AWG 14								
3305	30-3305	5A	X				1,1 mm	1,65 mm	6,2 mm	6,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
3308	30-3308	8A		X			1,35 mm	1,85 mm	6,2 mm	6,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
3310	30-3310	10A	X	X	X		1,7 mm		6,2 mm	6 mm	6 mm	OK		OK
3315	30-3315	15A				X	2 mm		6,2 mm	6 mm	6 mm	OK		OK
3320	30-3320	20A					X	2,6 mm	5,5 mm	6 mm	5,3 mm	OK		OK

FEMALE STRAIGHT ON CABLE P/N 30-43xx (solder or crimp)



Cable assy instruction
IC30HP02 on page 122



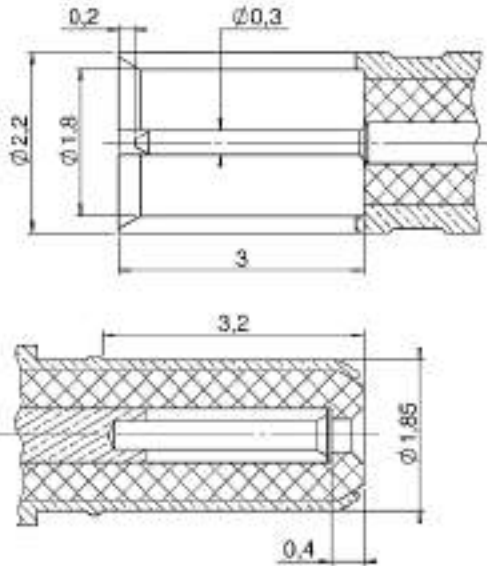
Loaded	Unloaded	Ampere	Cable A				ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimp by HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16	AWG 14								
4305	30-4305	5A	X				1,1 mm	1,65 mm	6,2 mm	6,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4308	30-4308	8A		X			1,35 mm	1,85 mm	6,2 mm	6,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4310	30-4310	10A	X	X	X		1,7 mm		6,2 mm	6 mm	6 mm	OK		OK
4315	30-4315	15A				X	2 mm		6,2 mm	6 mm	6 mm	OK		OK
4320	30-4320	20A					X	2,6 mm	5,5 mm	6 mm	5,3 mm	OK		OK

HF : High Frequency contacts series 22

HP : High Power contacts series 22

FOR CMM 340

INSERTION



HF female contact insertion



The special contact gender is determined by the body and not by the central contact

HF male contact insertion



PART NUMBERING FOR PCB HF & HP SPECIAL CONTACTS

These two digits are linked to the connector. Do not use them inside a CMM part number when loaded. All dash signs also disappear

Contact type:
3 = straight
4 = right angle
5 = SMT 90°
6 = SMT straight

Termination length
"12" = 1st row 3mm
"22" = 2nd row 3mm
"14" = 1st row 4.5mm
"24" = 2nd row 4.5mm
"..."

Coaxmatic 22™
1 = male coax
2 = female coax
3 = high power male
4 = high power female

22-00-00

PART NUMBERING FOR HF & HP SPECIAL CONTACTS ON-CABLE

These two digits are linked to the connector. Do not use them inside a CMM part number when loaded. All dash signs also disappear

For HF contacts only Inner contact
Z = solder
S = crimp

For HF contacts only shield
Z = solder
S = crimp

Contact type:
3 = straight
"..."

Use these 2 digits only with 1.2mm dia. cables mounted on a HF straight contact
Crimp shield type: 01 = refer to page 92 02 = refer to page 92

Special contacts :
1 = male HF
2 = female HF
3 = male HP
4 = female HP

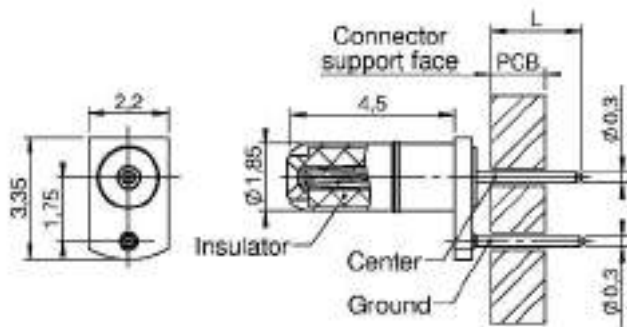
22-3-Z-75

Use these 2 digits only with 75 Ohm cables

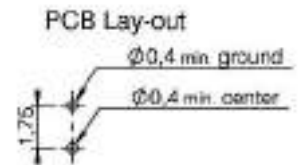
Contact termination:
10 = for HP 10A
12 = for HF cable 1.2mm
20 = for HF cable 2mm

HF : High Frequency contacts series 22

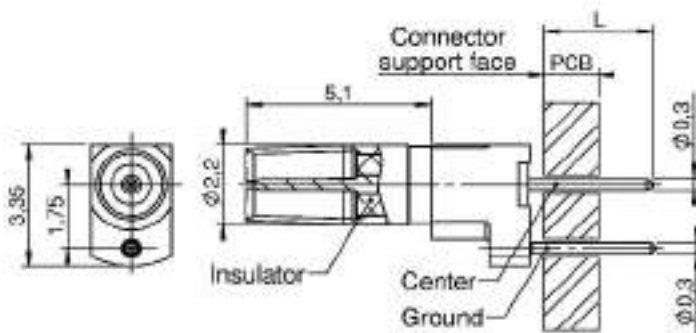
MALE STRAIGHT ON PCB P/N 22-1300-xx



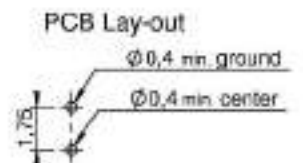
Loaded	Length L
I30012	3 mm
I30014	4,5 mm



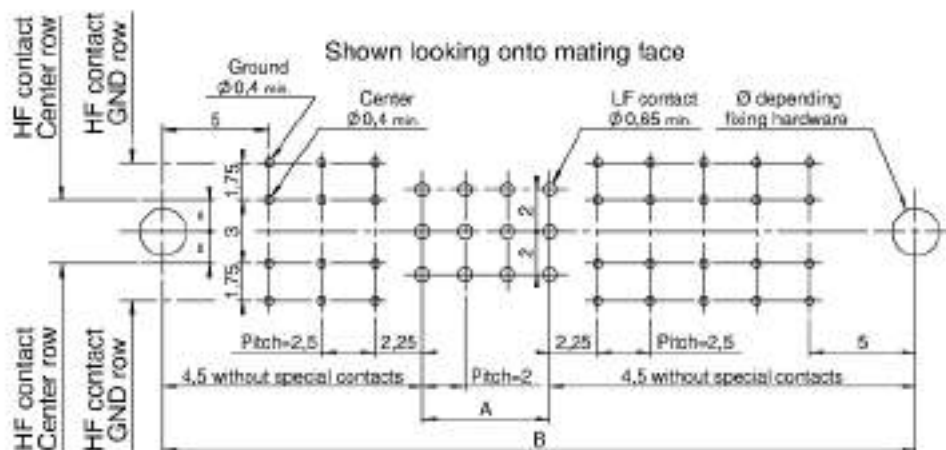
FEMALE STRAIGHT ON PCB P/N 22-2300-xx



Loaded	Length L
230012	3 mm
230014	4,5 mm



PCB LAYOUT 22-1300-xx & 22-2300-xx



$$A = \left\lceil \frac{(nn \times 2)}{3} \right\rceil - 2$$

if yy and zz $\neq$ 0 :

$$B = \left\lceil \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\rceil \times 2,5 + 14,5 + A$$

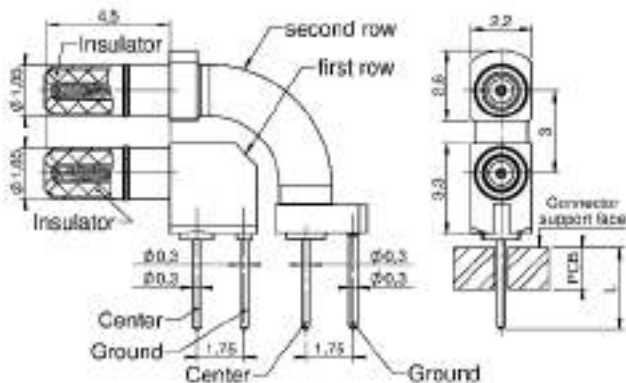
if yy or zz = 0 :

$$B = \left\lceil \left(\frac{(yy) - (zz)}{2} \right) - 1 \right\rceil \times 2,5 + 11,75 + A$$

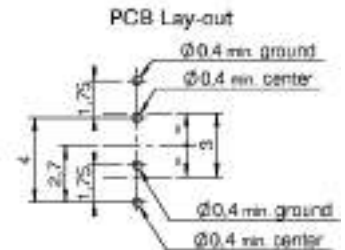
B max. = 87

HF : High Frequency contacts series 22

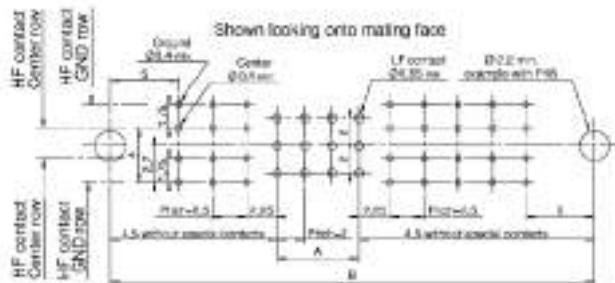
MALE 90° PCB P/N 22-1400-xx



	Loaded		Loaded	Length L
First row	140012	it mounted in same connector	140002	3 mm
Second row	140022			
First row	140014	it mounted in same connector	140004	4,5 mm
Second row	140024			



PCB LAYOUT 22-1400-xx



$$A = \left\lceil \frac{(nn \times 2)}{3} \right\rceil - 2$$

if yy or zz = 0 :

$$B = \left\lceil \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\rceil \times 2,5 + 14,5 + A$$

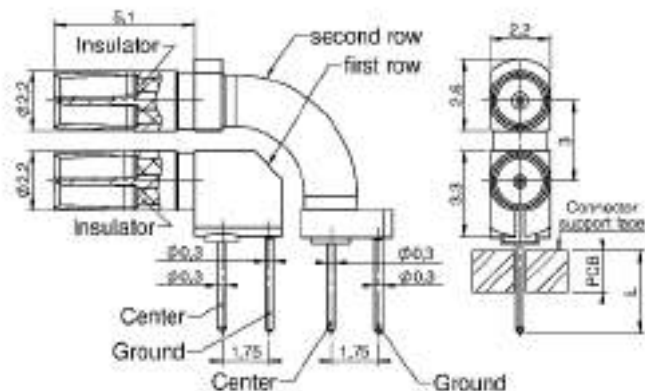
if yy or zz = 0 :

$$B = \left\lceil \left(\frac{(yy) - (zz)}{2} \right) - 1 \right\rceil \times 2,5 + 11,75 + A$$

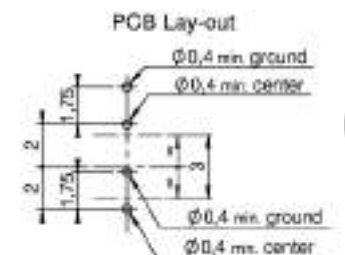
B max. = 87



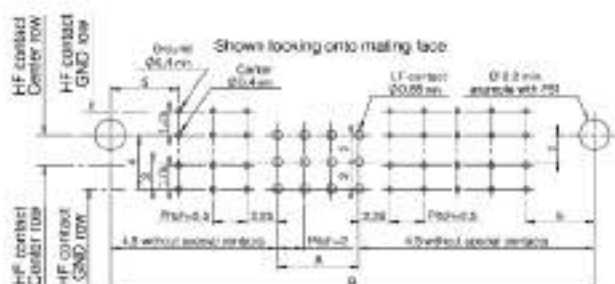
FEMALE 90° PCB P/N 22-2400-xx



	Loaded		Loaded	Length L
First row	240012	it mounted in same connector	240002	3 mm
Second row	240022			
First row	240014	it mounted in same connector	240004	4,5 mm
Second row	240024			



PCB LAYOUT 22-2400-xx



$$A = \left\lceil \frac{(nn \times 2)}{3} \right\rceil - 2$$

if yy and zz = 0 :

$$B = \left\lceil \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\rceil \times 2,5 + 14,5 + A$$

if yy or zz = 0 :

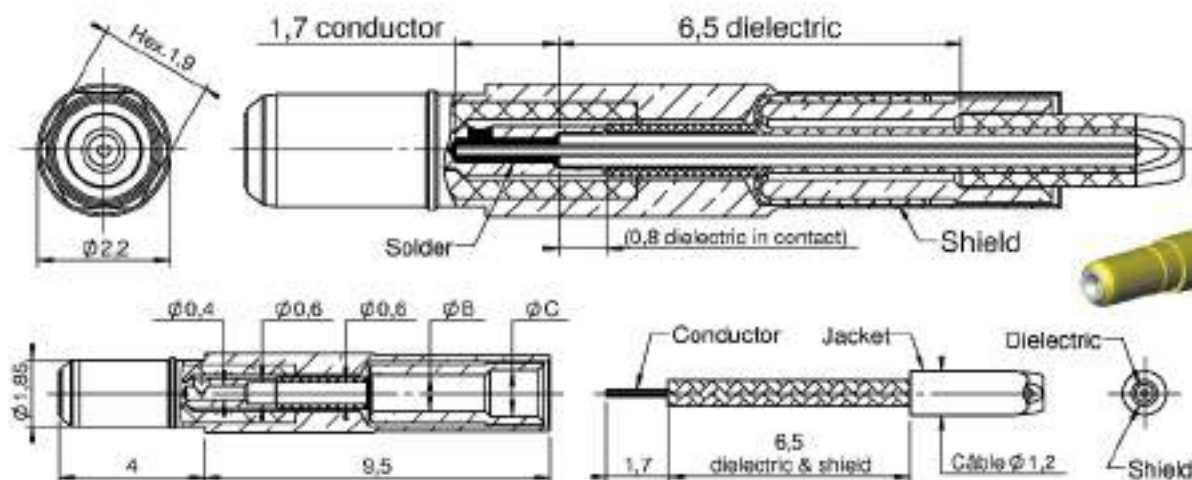
$$B = \left\lceil \left(\frac{(yy) - (zz)}{2} \right) - 1 \right\rceil \times 2,5 + 11,75 + A$$

B max. = 87



HF : High Frequency contacts series 22

MALE STRAIGHT TO CRIMP ON CABLE Ø 1.2 P/N 22-1312-ZS-xx

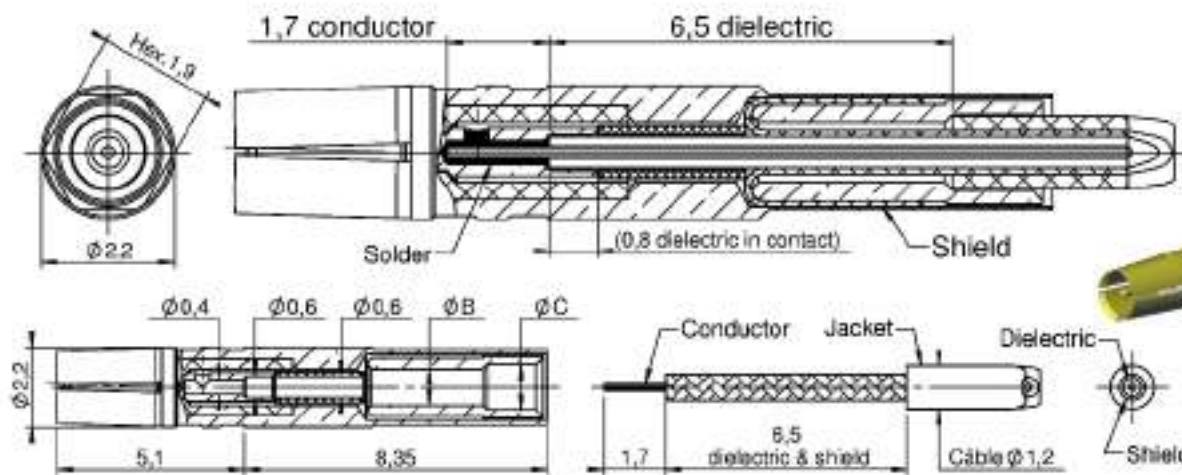


Cable assy instruction IC22HF01 on page 116

Loaded	Unloaded	ØB	ØC	
I312ZS01	22-1312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
I312ZS02	22-1312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50



FEMALE STRAIGHT TO CRIMP ON CABLE Ø 1.2 P/N 22-2312-ZS-xx



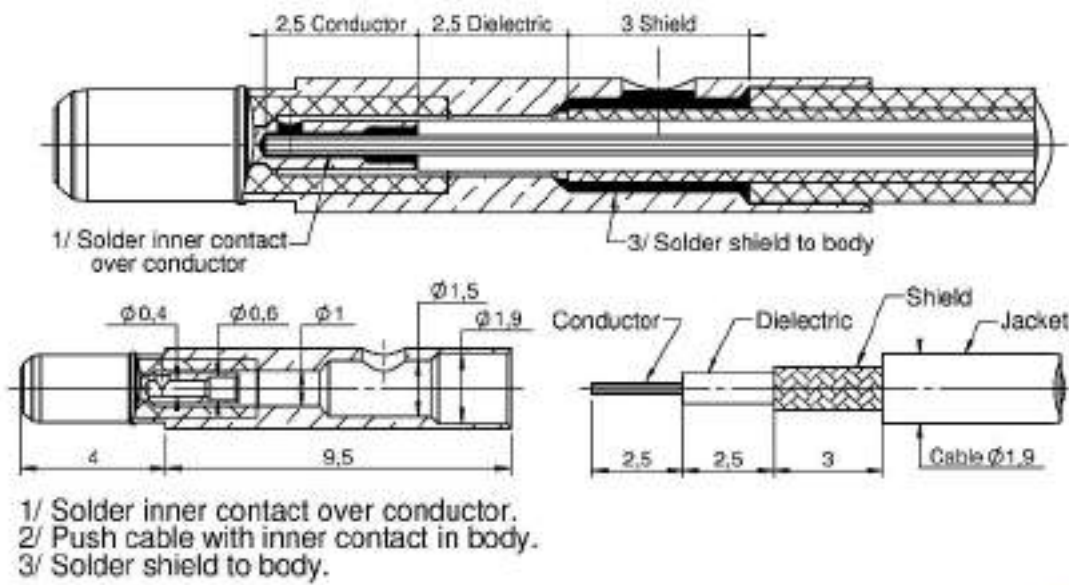
Cable assy instruction IC22HF02 on page 117

Loaded	Unloaded	ØB	ØC	
2312ZS01	22-2312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
2312ZS02	22-2312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50



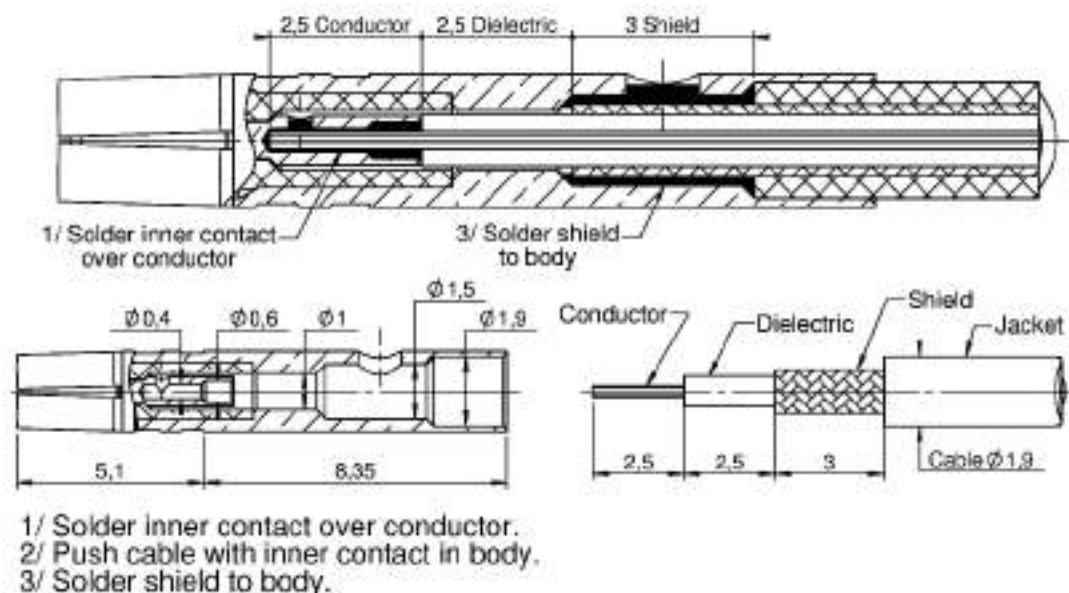
HF : High Frequency contacts series 22

MALE STRAIGHT ON CABLE P/N 22-1320-ZZ



Loaded	Unloaded
1320ZZ	22-1320-ZZ

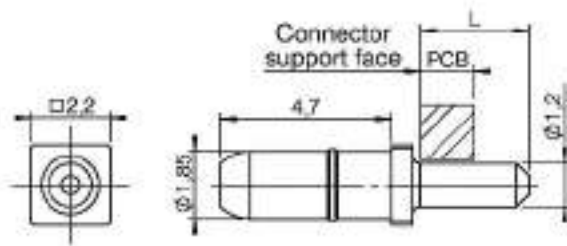
FEMALE STRAIGHT ON CABLE P/N 22-2320-ZZ



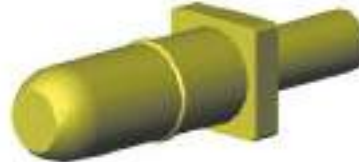
Loaded	Unloaded
2320ZZ	22-2320-ZZ

HP : High power contacts series 22

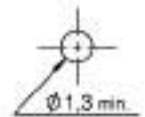
MALE STRAIGHT ON PCB P/N 22-3300-xx



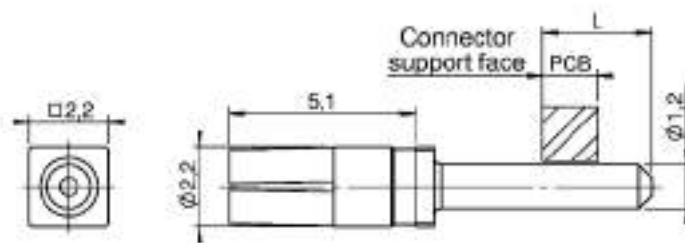
Loaded	Length L
330012	3 mm
330014	4,5 mm



PCB Lay-out



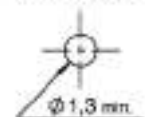
FEMALE STRAIGHT ON PCB P/N 22-4300-xx



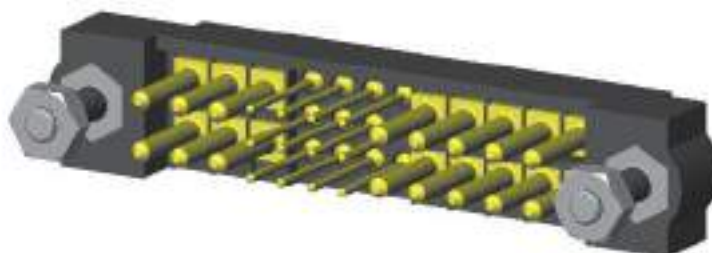
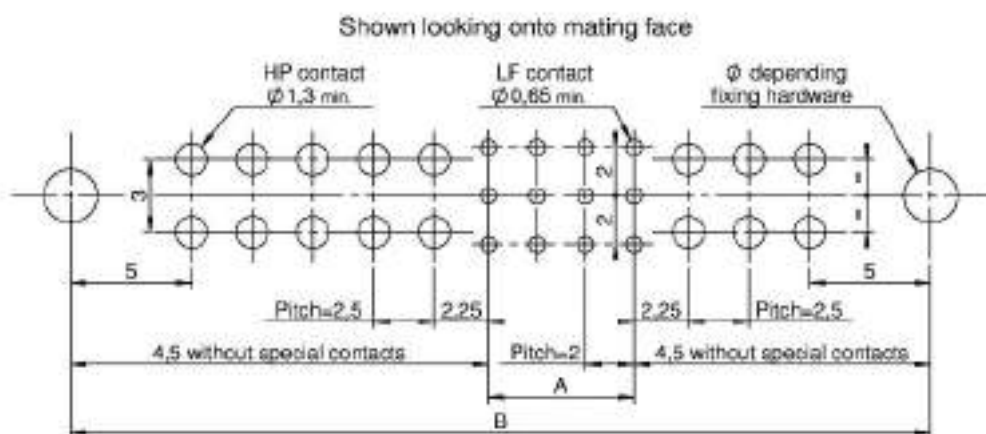
Loaded	Length L
430012	3 mm
430014	4,5 mm



PCB Lay-out



PCB LAYOUT 22-3300-xx & 22-4300-xx



$$A = \left\{ \frac{(nn \times 2)}{3} \right\} - 2$$

if yy and zz $\neq$ 0 :

$$B = \left\{ \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\} \times 2,5 + 14,5 + A$$

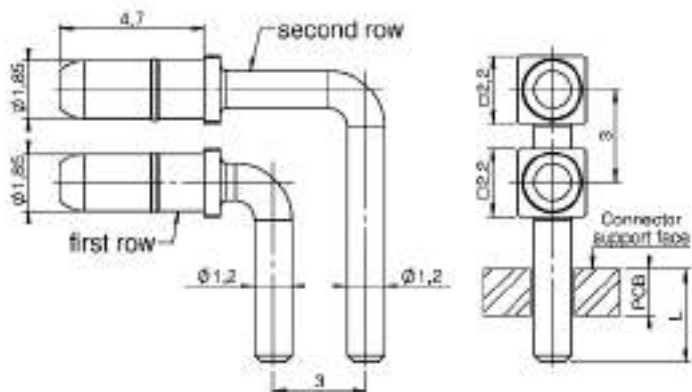
if yy or zz = 0 :

$$B = \left\{ \left(\frac{(yy) - (zz)}{2} \right) - 1 \right\} \times 2,5 + 11,75 + A$$

B max. = 87

HP : High power contacts series 22

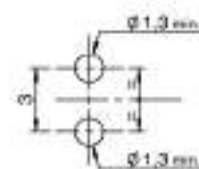
MALE 90° PCB P/N 22-3400-xx



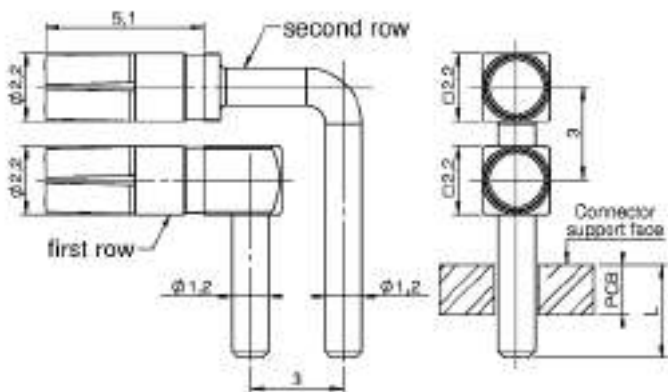
	Loaded		Loaded	Length L
First row	340012	it mounted in same connector	340002	3 mm
Second row	340022			
First row	340014	it mounted in same connector	340004	4,5 mm
Second row	340024			



PCB Lay-out



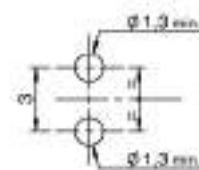
FEMALE 90° PCB P/N 22-4400-xx



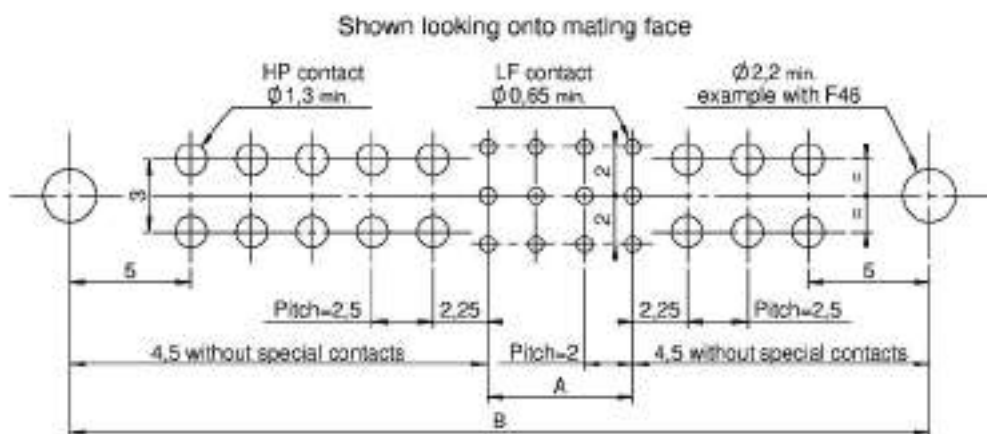
	Loaded		Loaded	Length L
First row	440012	it mounted in same connector	440002	3 mm
Second row	440022			
First row	440014	it mounted in same connector	440004	4,5 mm
Second row	440024			



PCB Lay-out



PCB LAYOUT 22-3400-xx & 22-4400-xx



$$A = \left\{ \frac{(nn \times 2)}{3} \right\} - 2$$

if yy and zz $\neq$ 0 :

$$B = \left\{ \left(\frac{(yy) + (zz)}{2} \right) - 2 \right\} \times 2,5 + 14,5 + A$$

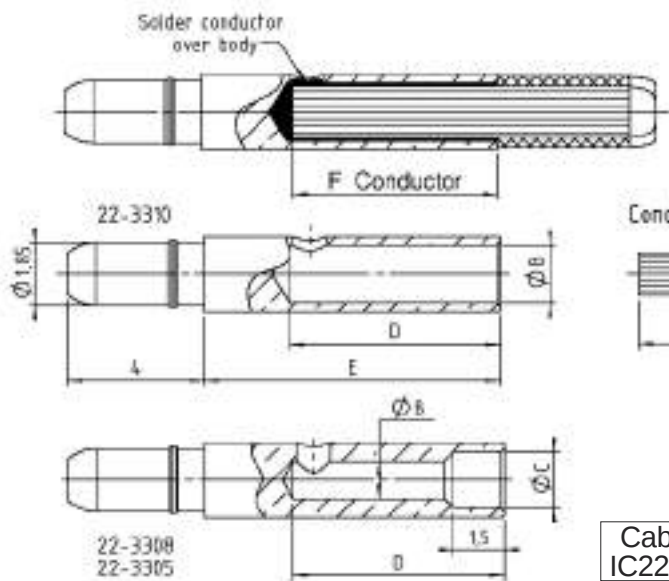
if yy or zz = 0 :

$$B = \left\{ \left(\frac{(yy) + (zz)}{2} \right) - 1 \right\} \times 2,5 + 11,75 + A$$

B max. = 87

HP : High power contacts series 22

MALE STRAIGHT ON CABLE P/N 22-33XX (solder & crimp)



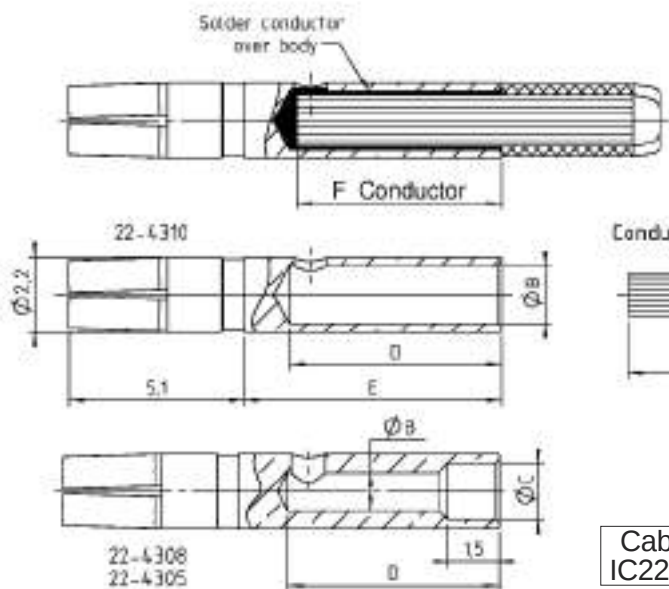
Cable assy instruction
IC22HP02 on page 121



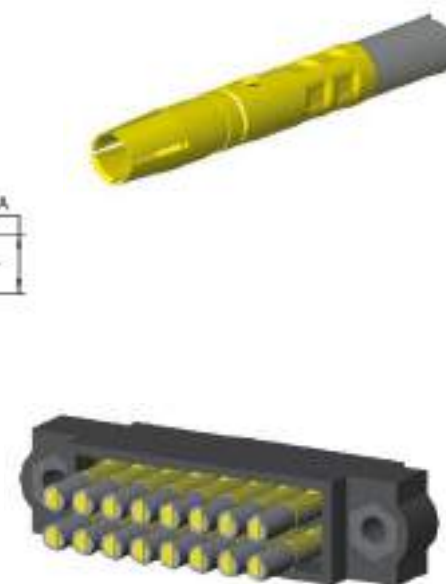
Loaded	Unloaded	Ampere	Cable A			ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimpy HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16								
3305	22-3305	5A	X			1,1 mm	1,65 mm	6,2 mm	8,8 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
3308	22-3308	8A		X		1,35 mm	1,85 mm	6,2 mm	8,8 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
3310	22-3310	10A	X	X	X	1,7 mm		6,2 mm	8,8 mm	6 mm	OK	Hex. 1,9 mm/C14923*	OK

* only for AWG 16

FEMALE STRAIGHT ON CABLE P/N 22-43XX (solder & crimp)



Cable assy instruction
IC22HP02 on page 121



Loaded	Unloaded	Ampere	Cable A			ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimpy HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16								
4305	22-4305	5A	X			1,1 mm	1,65 mm	6,2 mm	7,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4308	22-4308	8A		X		1,35 mm	1,85 mm	6,2 mm	7,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4310	22-4310	10A	X	X	X	1,7 mm		6,2 mm	7,7 mm	6 mm	OK	Hex. 1,9 mm/C14923*	OK

* only for AWG 16

Tools

DANIELS MH800 TOOL AND POSITIONER P/N K1131 & K1692

Tools reference	Barrel
DANIELS MH800 only	MH800
Positioner K1692 only	C12929
Positioner K1131 only	K1131
DANIELS MH800 & K1131	C12237
DANIELS MH800 & K1692	C14925



Crimp barrel accommodation for LF contacts					
Hand crimp tool reference	Positioner	Contacts type	Contacts reference	Wire size (AWG)	Crimp tool setting
DANIELS MH800	K1692	Male C	I2960	22	6
DANIELS MH800	K1692	Male S	I2969	24	7
DANIELS MH800	K1692	Male S	I2969	26 & 28	6
DANIELS MH800	K1692	Female C	C13064-P	22	6
DANIELS MH800	K1692	Female S	C12468	24	7
DANIELS MH800	K1692	Female S	C12468	26 & 28	6

Crimp barrel accommodation for central contact HF30 series			
Hand crimp tool reference	Positioner	Conductor	Crimp tool setting
DANIELS MH800	K1131	Ø 0,30	2 & 3
DANIELS MH800	K1131	Ø 0,50	3 & 4

DANIELS AF8 TOOL P/N 16459

Tools reference	Reference Nicomatic
DANIELS AF8 only	I6459
DANIELS AF8 + C16460	C16462
DANIELS AF8 + C16461	C16463

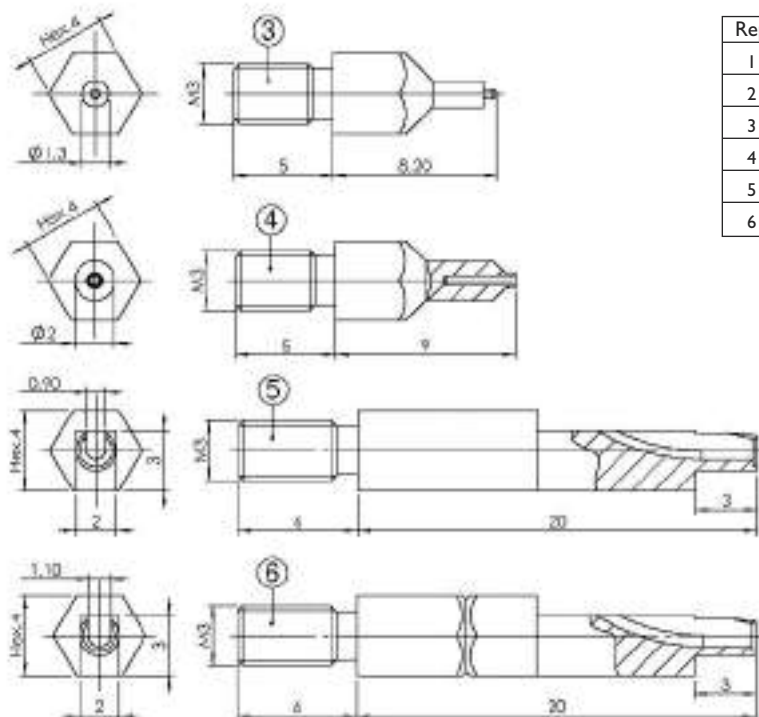


Crimp barrel accommodation for crimping HP contact		
Hand crimp tool reference	Positioner	HP contact serie
DANIELS AF8	C16460	30
DANIELS AF8	C16461	22

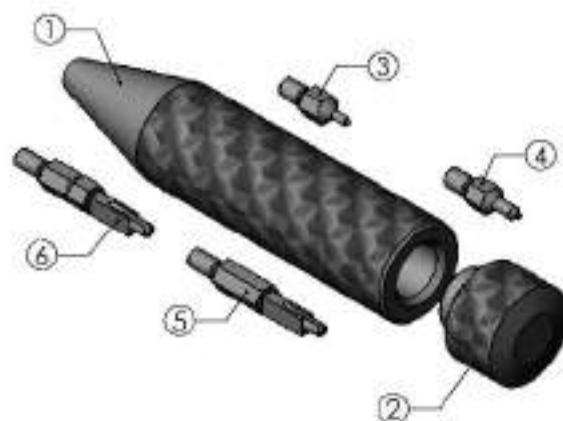


Tools

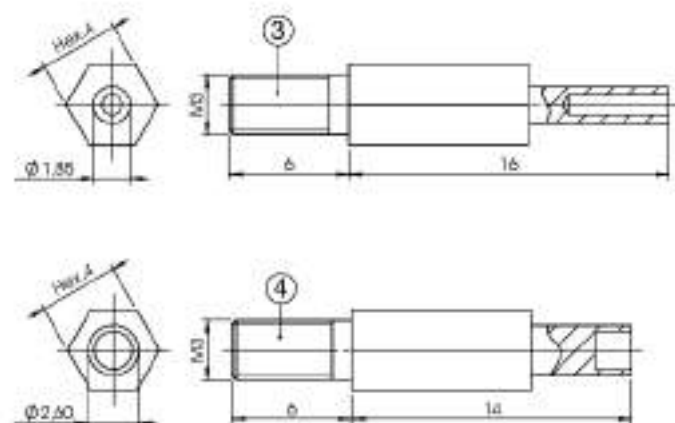
LF CONTACTS INSERTION & WITHDRAWAL TOOL P/N C12935



Rep	Reference	Assembly C12935
1	13241	Body
2	13240	Plug
3	13170	Female contact extraction tip
4	13242	Male contact extraction tip
5	13171	24-28 AWG insertion tip
6	13712	22 AWG insertion tip



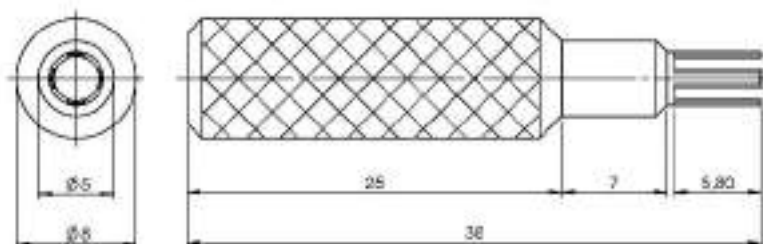
HF / HP SERIES 22 CONTACTS REMOVAL P/N C13997



Rep	Reference	Assembly C13997
1	13241	Body
2	13240	Plug
3	13995	Female contact extraction tip
4	13996	Male contact extraction tip
5	16139	Male & female contact insertion tool

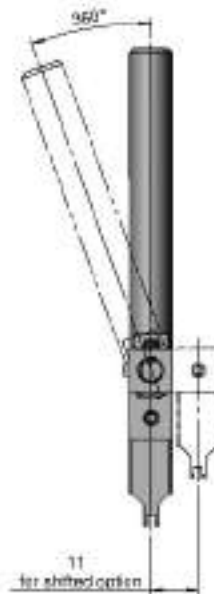
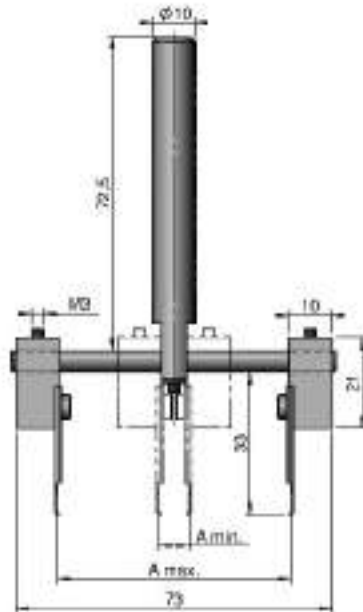
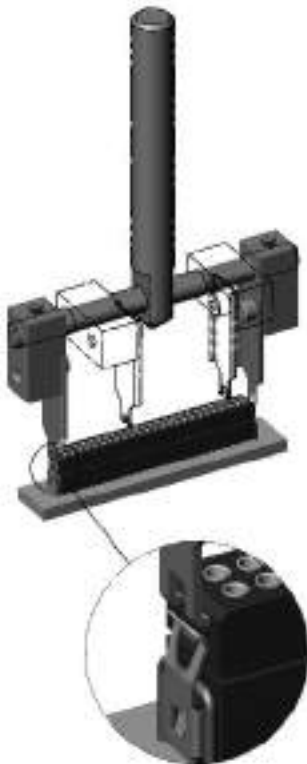


HF / HP SERIES 30 CONTACTS REMOVAL P/N 12368



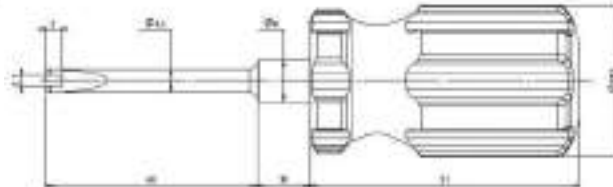
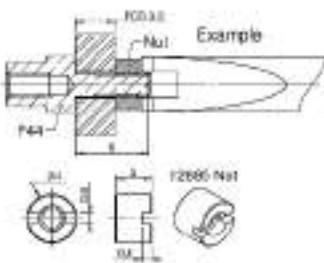
Tools

LATCH SEPARATION TOOL P/N C14790



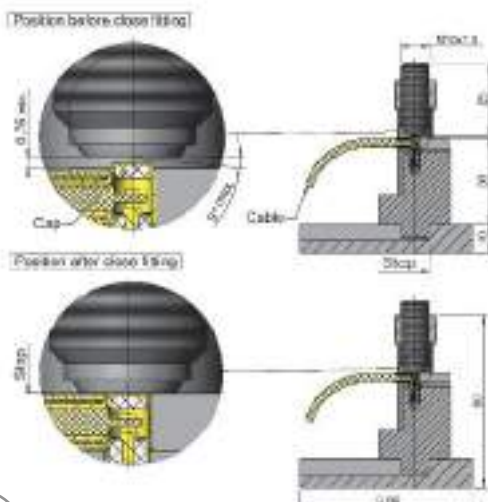
Series	A max.		A min.	
	A max.	LF contacts	A min.	LF contacts
CMM 100	53	25	7	2
CMM 200	53	50	7	4

SCREWDRIVER P/N C14743 FOR NUT P/N 12685



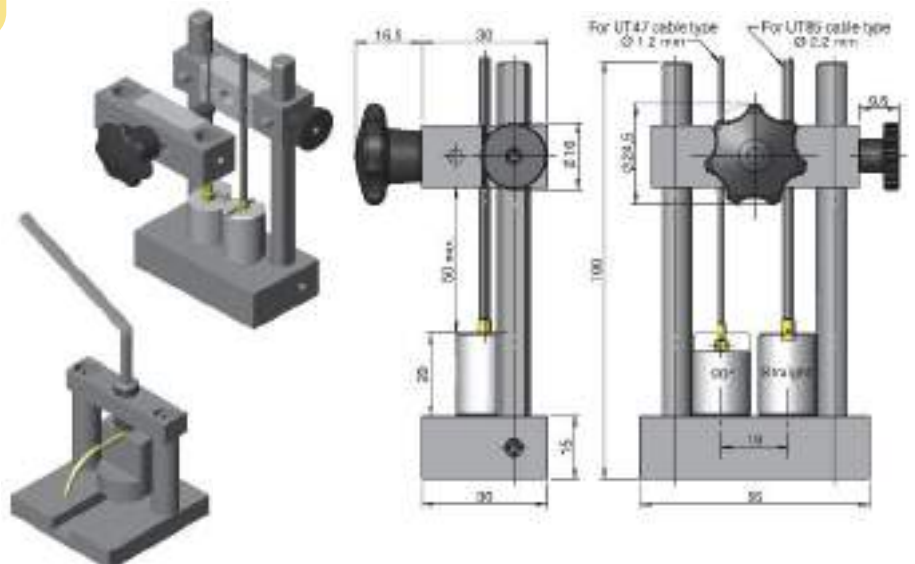
Optional: dynamometric screwdriver specifically designed for low torques (includes bits & adjusting key).

MOUNTING OF C14772 BACK CAPS



Hex. 5mm Tool not delivered

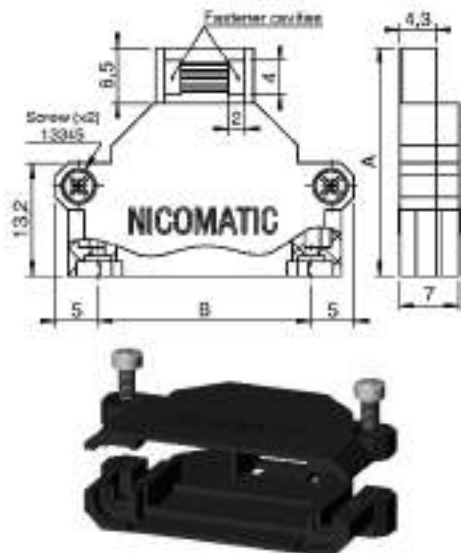
SUCOFLEX SOLDER TOOL P/N C14777



Accessories

STRAIGHT COVER FOR CMM SERIES 220 (male & female) P/N CMM-C2-XX (other upon request)

Material : high temp. thermoplastic (-55°C to +200°C)



Length B in mm
(distance between fixing hardware axes)

CMM-C2-

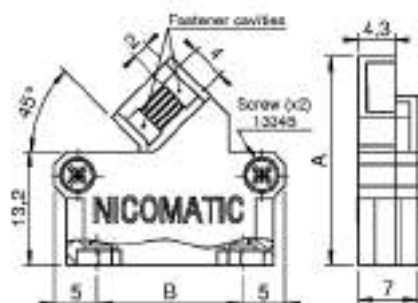
CMM 220 series

Reference	Length B	Length A	Screw (x2)
CMM-C2-11	11 mm	23,7 mm	Included
CMM-C2-15	15 mm	23,7 mm	
CMM-C2-17	17 mm	17,2 mm	
CMM-C2-25	25 mm	26,7 mm	
CMM-C2-27	27 mm	26,7 mm	
CMM-C2-31	31 mm	29,7 mm	
CMM-C2-39	39 mm	29,7 mm	
CMM-C2-45	45 mm	33,7 mm	
CMM-C2-47	47 mm	33,7 mm	
CMM-C2-49	49 mm	33,7 mm	
CMM-C2-53	53 mm	33,7 mm	
CMM-C2-55	55 mm	33,7 mm	

Note: F28 and M18 fixings are not included with the cover

45° COVER FOR CMM SERIES 220 (male & female) P/N CMM-C2-XX-45 (upon request)

Material : high temp. thermoplastic (-55°C to +200°C)



Length B in mm
(distance between fixing hardware axes)

CMM-C2--45

CMM 220 series

45 for exit 45°

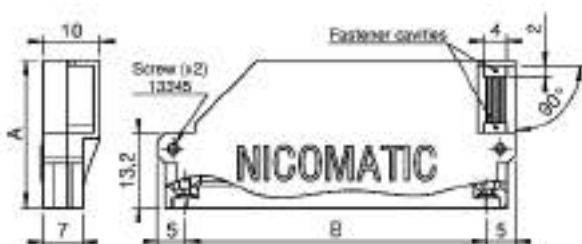
Reference	Length B	Length A	Screw (x2)
CMM-C2-17-45	17 mm	24,4 mm	Included

CMM220 male F28 fixing not included with cover

CMM220 female M18 fixing not included with cover

90° COVER FOR CMM SERIES 220 (male & female) P/N CMM-C2-XX-90 (upon request)

Material : high temp. thermoplastic (-55°C to +200°C)



Length B in mm
(distance between fixing hardware axes)

CMM-C2--90

CMM 220 series

90 for exit 90°

Reference	Length B	Length A	Screw (x2)
CMM-C2-53-90	53 mm	26 mm	Included

CMM220 male F28 fixing not included with cover

CMM220 female M18 fixing not included with cover

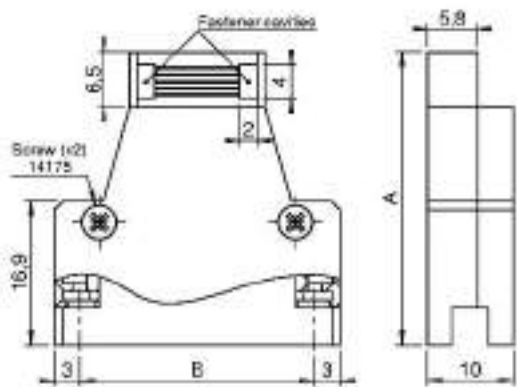


Note: Aluminum covers are available upon request. Contact us.

Accessories

COVERS STRAIGHT FOR CMM SERIES 320 & 340 (male & female) P/N CMM-C3-XX.X

Material : high temp. thermoplastic (-55°C to +200°C)



Reference	Length B	Length A	Screw (x2)
CMM-C3-27.5	27,5 mm	34,4 mm	Included
CMM-C3-45.0	45,0 mm	34,4 mm	

For CMM320/340 male & female
M45 or F57 fixing not included with cover

Other upon request

Length B in mm
(distance between fixing hardware axes)

CMM-C3-XX.X

CMM series 320 & 340



SHIELDING FOR CMM SERIES 220 (male straight on PCB) P/N 12997-XX (upon request)



XX = distance between fixing axis B

SHIELDING FOR CMM SERIES 220 (male 90° on PCB) P/N 12998-XX (upon request)



XX = distance between fixing axis B

SHIELDING FOR CMM SERIES 220 (female on cable) P/N C13024-XX (upon request)



XX = distance between fixing axis B

Accessories

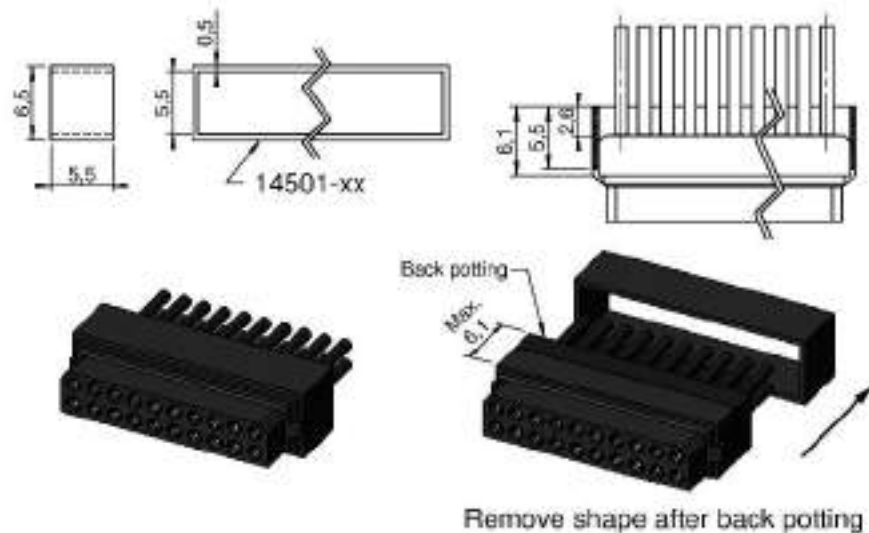
BACKPOTTING SHAPE FOR CMM SERIES 200 (female) P/N 14501-XX

Material : thermoplastic 100°C max.

Reference	Length B
I4501-07	min. 7 mm
I4501-09	9 mm
I4501-11	11 mm
I4501-13	13 mm
I4501-15	15 mm
I4501-17	17 mm
I4501-19	19 mm
I4501-21	21 mm
I4501-23	23 mm
I4501-25	25 mm
I4501-27	27 mm
I4501-29	29 mm
I4501-31	31 mm
I4501-33	33 mm
I4501-35	35 mm
I4501-37	37 mm
I4501-39	39 mm
I4501-41	41 mm
I4501-43	43 mm
I4501-45	45 mm
I4501-47	47 mm
I4501-49	49 mm
I4501-51	51 mm
I4501-53	max. 53 mm

14501-xx (xx = length B in mm)

Example with B=23mm : Ref = 14501-23



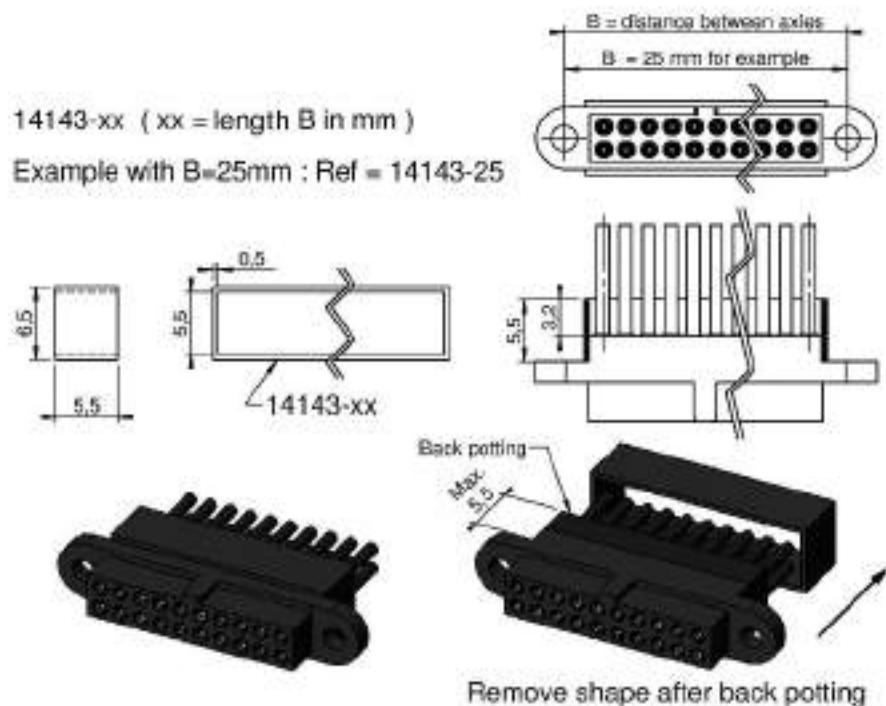
BACKPOTTING SHAPE FOR CMM SERIES 220 (male & female) P/N 14143-XX

Material : thermoplastic 100°C max.

Reference	Length B
I4143-09	min. 9 mm
I4143-11	11 mm
I4143-13	13 mm
I4143-15	15 mm
I4143-17	17 mm
I4143-19	19 mm
I4143-21	21 mm
I4143-23	23 mm
I4143-25	25 mm
I4143-27	27 mm
I4143-29	29 mm
I4143-31	31 mm
I4143-33	33 mm
I4143-35	35 mm
I4143-37	37 mm
I4143-39	39 mm
I4143-41	41 mm
I4143-43	43 mm
I4143-45	45 mm
I4143-47	47 mm
I4143-49	49 mm
I4143-51	51 mm
I4143-53	53 mm
I4143-55	55 mm
I4143-57	57 mm
I4143-59	59 mm
I4143-61	61 mm
I4143-63	63 mm
I4143-65	max. 65 mm

14143-xx (xx = length B in mm)

Example with B=25mm : Ref = 14143-25



Note: Special housing with integrated backpotting available upon request.

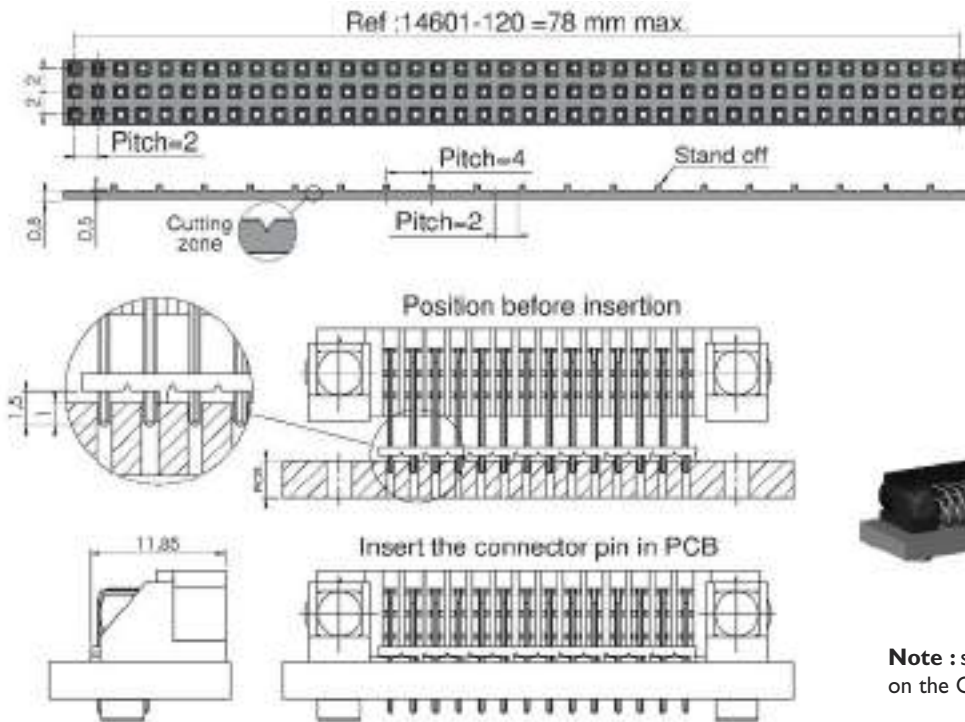


Accessories

CONTACTS ALIGNMENT PLATE P/N 14601-120

Material : high temperature thermoplastic (-55°C to +200°C)

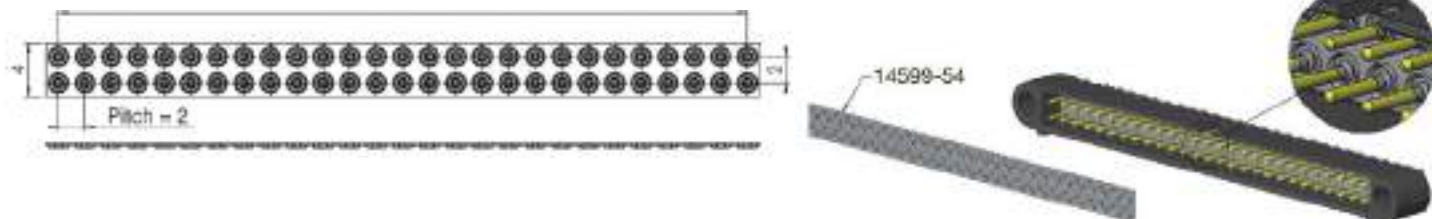
Divisible



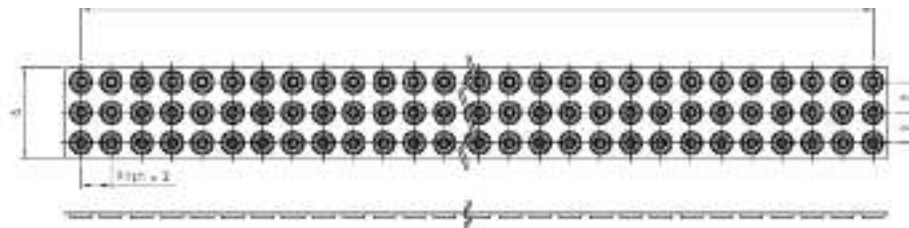
Note : systematically delivered and mounted on the CMM 320 series "right angle" (V and VL types)

SILICON INTERFACIAL SEAL (for male connector except S-C types)

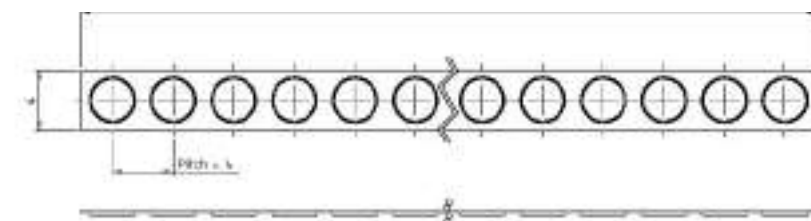
LF 220 series P/N 14599-54 = 52 mm max.



LF 320 series P/N 14980-120 = 78 mm max.



Special contacts 220 series P/N 16053-15 = 60,2 mm max.

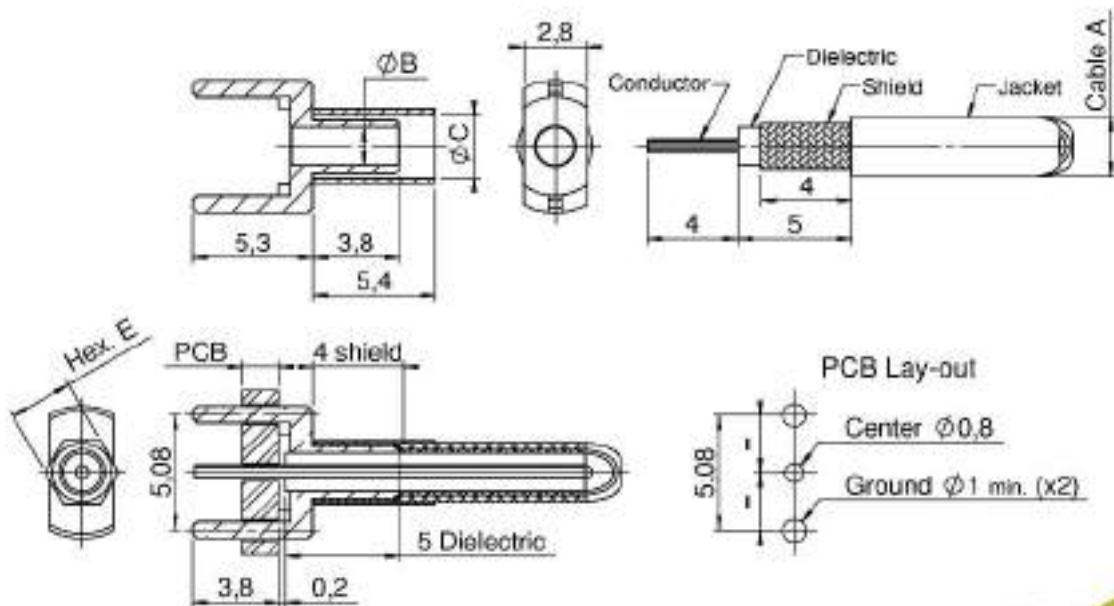


Mix-layout on request

Accessories

COAX CABLE CRIMP TERMINATION

(straight for cables $\varnothing 2$ and $\varnothing 2,7$)

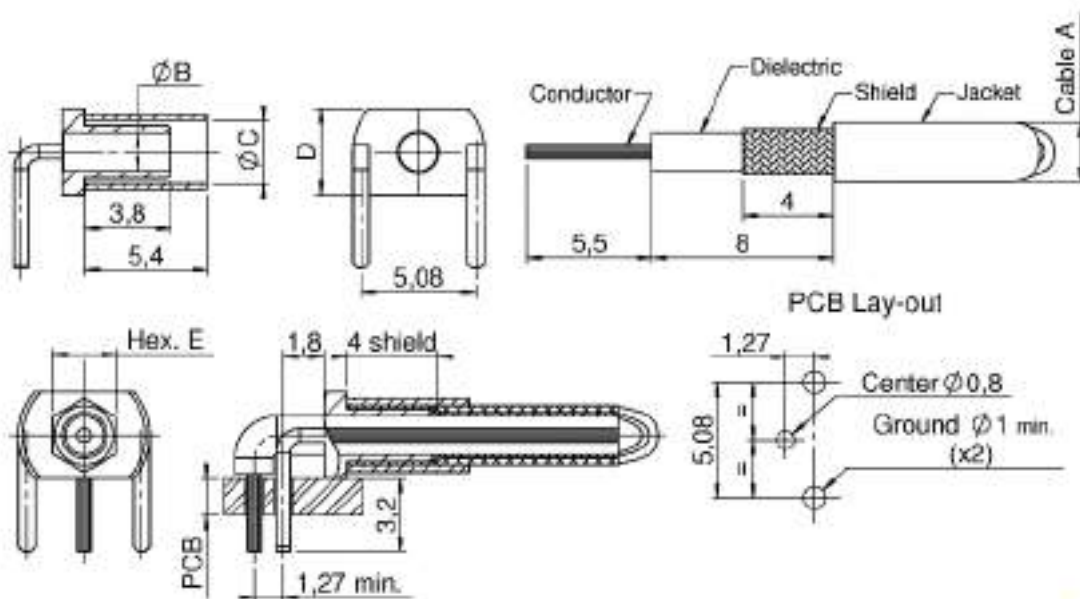


	CI4759	CI4760
Cable A	$\varnothing 2$	$\varnothing 2,7$
$\varnothing B$	1 mm	1,7 mm
$\varnothing C$	2,2 mm	2,8 mm
Hex. E	2,4 on flat	2,8 on flat



COAX CABLE CRIMP TERMINATION

(90° for cables $\varnothing 2$ and $\varnothing 2,7$)

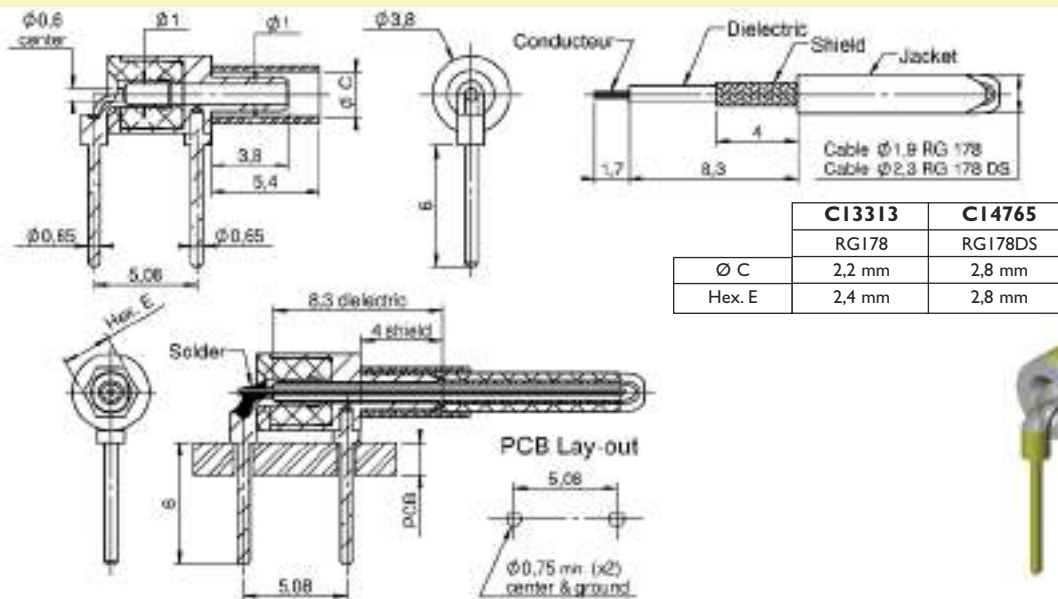


	CI4761	CI4762
Cable A	$\varnothing 2$	$\varnothing 2,7$
$\varnothing B$	1 mm	1,7 mm
$\varnothing C$	2,2 mm	2,8 mm
Length D	3,4 mm	3,8 mm
Hex. E	2,4 on flat	2,8 on flat



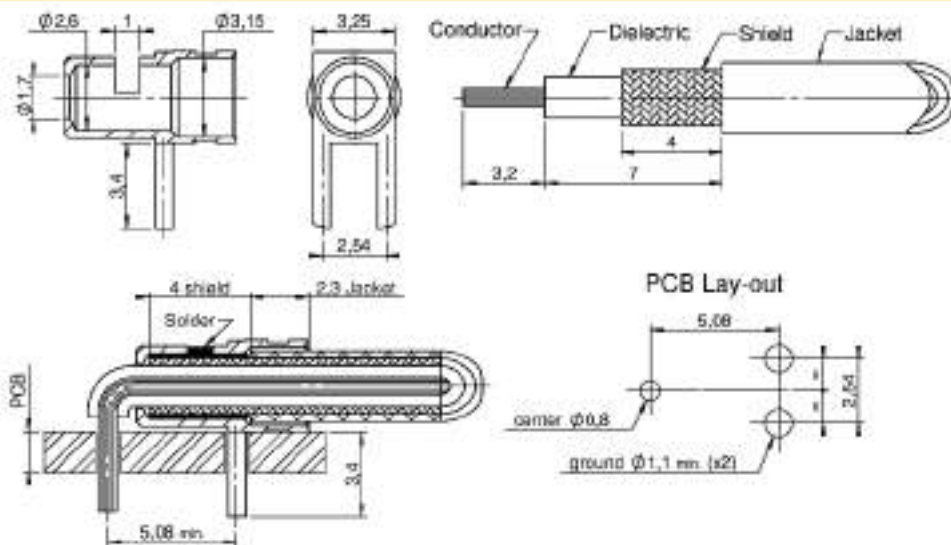
Accessories

COAX CABLE CRIMP TERMINATION P/N C13313 for RG 178 and P/N C14765 for RG 178 DS



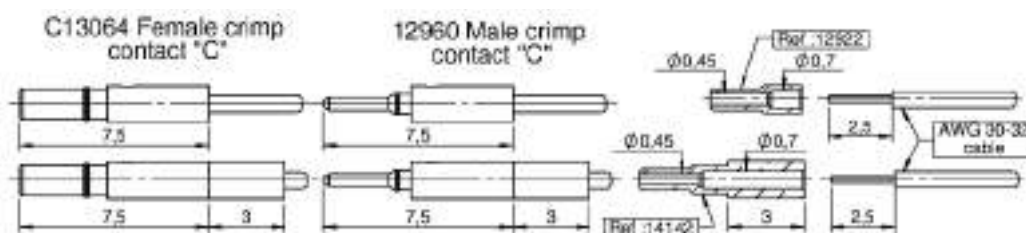
COAX CABLE CRIMP TERMINATION

P/N C12780 for cables RG 316



CRIMP GAUGE REDUCER

for awg 30-32 for LF contacts P/N 12922 & 14142

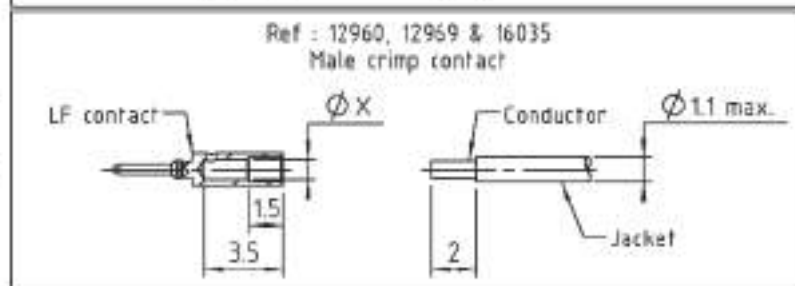
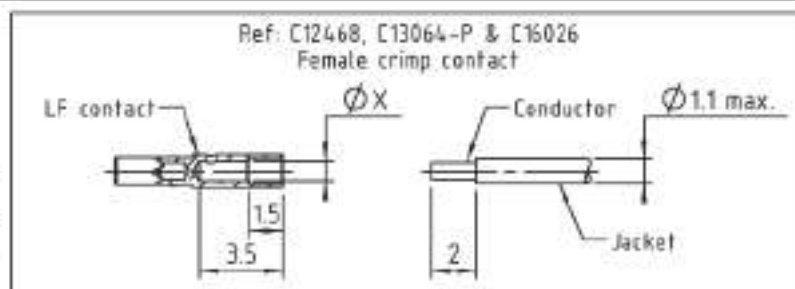


Gender	Contact "C"	Reducer	Tool	Positioner	Position 1st crimp	Position 2nd crimp
Male	I2960	I2922	MH800	K1692	Contact + reducer + cable position "4"	
Female	C13064-P					
Male	I2960	I4142	MH800	K1692	Reducer + cable position "8"	(Reducer & cable) + contact position "4"
Female	C13064-P					



Cable instructions (ICLF01)

Diameter X	
Reference	X
12969	0.7
16035	
C12468	
C16026	
12960	0.9
C13064-P	



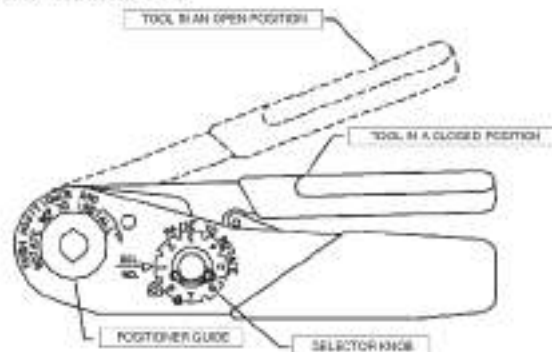
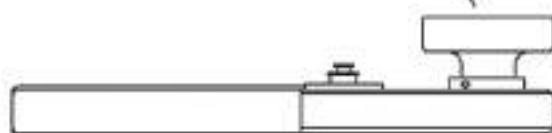
Crimp barrel accommodation					
Contact		Wire size (AWG)	Tool		
Reference	Type		Hand crimp tool reference	Positioner	Crimp tool setting
12960	Male C	22	DAVEL S H8000	K1692	6
12969	Male S	24			7
16035	Male S	26 & 28			6
C12468	Female C	22			6
C13064-P	Female S	24			7
C16026	Female S	26 & 28			6

1 - Set the Hand crimp tool according to Crimp barrel accommodation table above

1.1 - Select the crimp tool setting with the selector knob.

1.2 - Put the Positioner K1692 in the positioner guide.

Put the positioner K1692
in the positioner guide



2 - Check the wire stripping

2.1 - Insert the Wire in the contact

2.2 - The conductor must be visible through the inspection window of the contact

Inspection window



3 - Insert the contact and Wire assembly in the crimp guide of the hand crimp tool

3.1 - In the crimp guide, the contact and Wire assembly must be in the end stop position

3.2 - During the crimping, keep the wire in position

3.3 - Just one crimping operation is allowed per contact and wire assembly

4 - Visually check the crimping

4.1 - The crimping must not deform the inspection window

4.2 - The contact must not have visible fractures or cracks

4.3 - The contact barrel must not be deformed or bent

5 - Check the contact is firmly crimped, by pulling gently

5.1 - For that purpose two (2) fingers are enough : pinch the wire and pull smoothly along the axis of the crimped contact.

Cable instructions

SPECIAL

HF CONTACTS						CONNECTION MODE		
Supplier	P/N	Ø Cable	Series	Gender	Ref. contact	Central contact	Shield	Impedance
Nexans (Axon *)	50VMTX (SM 50 *)	1,2 mm	HF30	Male	30-1312-ZS-01	Solder	Crimped Hex. 1,9 mm	50 Ohm
					(30-1312-ZS-02 *)			
				Female	30-1412-ZS			
			HF22	Male	30-2312-ZS-01			
					(30-2312-ZS-02 *)			
				Female	30-2412-ZS			
	75VMTX (SM 75 *)	1,2 mm	HF30	Male	22-1312-ZS-01	Solder	Crimped Hex. 1,9 mm	75 Ohm
					(22-1312-ZS-02 *)			
				Female	22-2312-ZS-01			
			HF22	Male	(22-2312-ZS-02 *)			
					30-1312-ZS-75-01			
				Female	(30-1312-ZS-75-02 *)			
Axon RG 178 DT	P500955	2,3 mm	HF30	Male	30-1412-ZS-75	Solder	Crimped Hex. 2,8 mm	50 Ohm
					30-2320-DS			
				Female	30-2420-DS			
					On choice			
Axon PTFE Cellular	P 812817	2,3 mm	HF30	Male	30-1324-DS	Solder	Crimped Hex. 2,8 mm	50 Ohm
					30-1424-DS			
				Female	30-2324-DS			
					30-2424-DS			
	P 804298 B	2,4 mm	HF30	Male	30-1324-DS-75	Solder	Crimped Hex. 2,8 mm	75 Ohm
					30-1424-DS-75			
				Female	30-2324-DS-75			
					30-2424-DS-75			
Axon RG 316 DT	P0530912	2,7 mm	HF30	Male	30-1326-DS	Solder	Crimped Hex. 3,25 mm	50 Ohm
					30-1426-DS			
				Female	30-2326-DS			
					30-2426-DS			
Axon RG 179 DT	P530268	3 mm	HF30	Male	30-1326-DS-75	Solder	Crimped Hex. 3,25 mm	75 Ohm
					30-1426-DS-75			
				Female	30-2326-DS-75			
					30-2426-DS-75			

DT = DS (Double Shield)

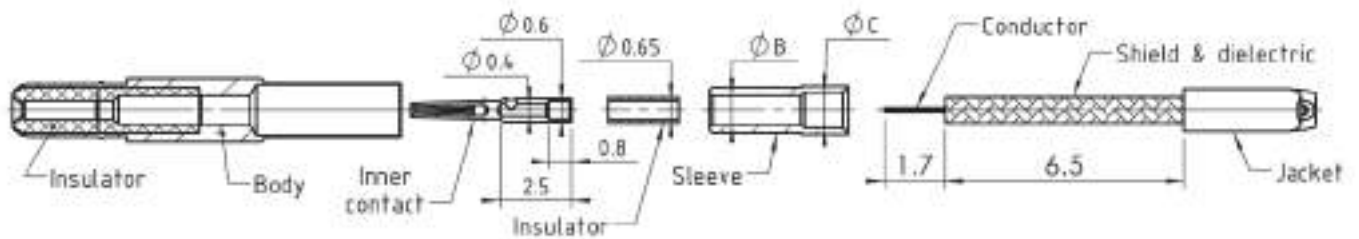
	ØB	ØC	Sleeve
P/N terminal -01 for 50VMTX cable type	1 mm	1,25 mm	
P/N terminal -02 for SM 50 cable type	0,85 mm	1,15 mm	

Cable instructions

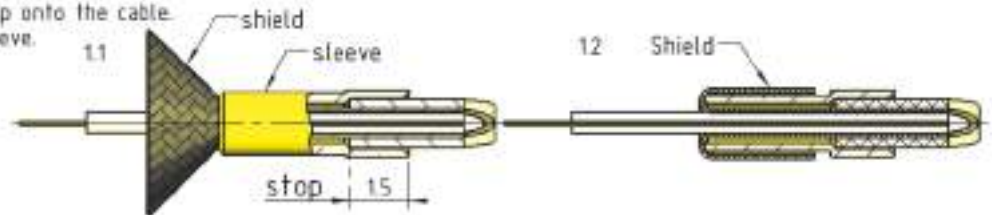
NORMES			HF CONTACTS			CONNECTION MODE			
MIL-C-17	NF C93-550	Ø Cable	Series	Gender	Ref. contact	Central contact	Shield	Impedance	
COAX CABLE	RG 178	KX 21 A	HF30	Male	30-1320-SS	Crimped	Crimped Hex. 2,4 mm	50 Ohm	
					30-1320-ZS	Solder			
					30-1420-ZS				
				Female	30-2320-SS	Crimped			
					30-2320-ZS	Solder			
					30-2420-ZS				
			HF22	Male	22-1320-ZZ				
				Female	22-2320-ZZ				
	RG 316	KX 22 A	2,7 mm	HF30	Male	30-1326-SS	Crimped	Crimped Hex. 2,8 mm	50 Ohm
						30-1326-ZS	Solder		
						30-1426-ZS			
					Female	30-2326-SS	Crimped		
						30-2326-ZS	Solder		
						30-2426-ZS			
	RG 174	KX 3 B	2,7 mm	HF30	Male	30-1326-SS	Crimped	Crimped Hex. 2,8 mm	50 Ohm
						30-1326-ZS	Solder		
						30-1426-ZS			
					Female	30-2326-SS	Crimped		
30-2326-ZS						Solder			
30-2426-ZS									
RG 179		2,7 mm	HF30	Male	30-1326-SS-75	Crimped	Crimped Hex. 2,8 mm	75 Ohm	
					30-1326-ZS-75	Solder			
					30-1426-ZS-75				
				Female	30-2326-SS-75	Crimped			
					30-2326-ZS-75	Solder			
					30-2426-ZS-75				

			HF CONTACTS			CONNECTION MODE		
Supplier	P/N	Ø Cable	Series	Gender	Ref. contact HF	Central contact	Shield	Impedance
	UT47	1,2 mm	HF30	Male	30-1347-ZZ	Solder	Solder	50 Ohm
					30-1447-ZZ			
				Female	30-2347-ZZ			
					30-2447-ZZ			
(Axon *)	UT85 (QFX 86 SPCW *)	2,2 mm	HF30	Male	30-1385-ZZ	Solder	Solder	50 Ohm
					30-1485-ZZ			
				Female	30-2385-ZZ			
					30-2485-ZZ			

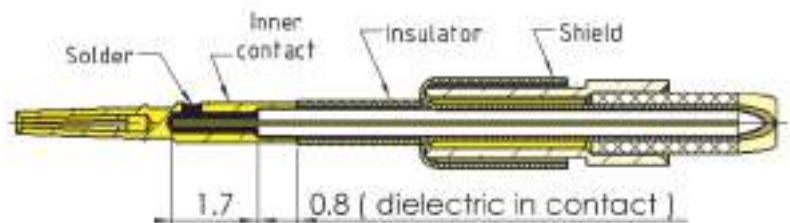
Cable instructions (IC22HF01)



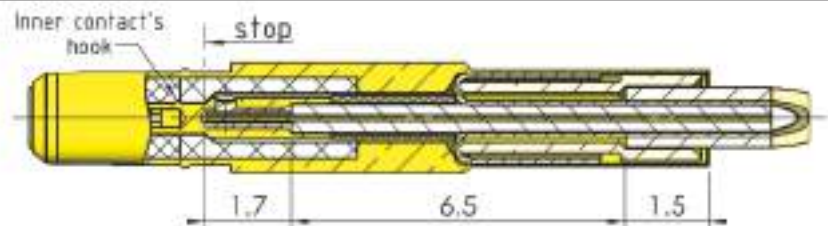
- 1/ 1.1 - Thread the sleeve until stop onto the cable.
 1.2 - Place the shield on the sleeve.



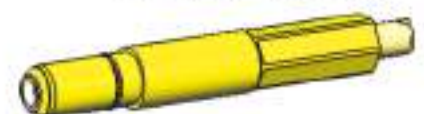
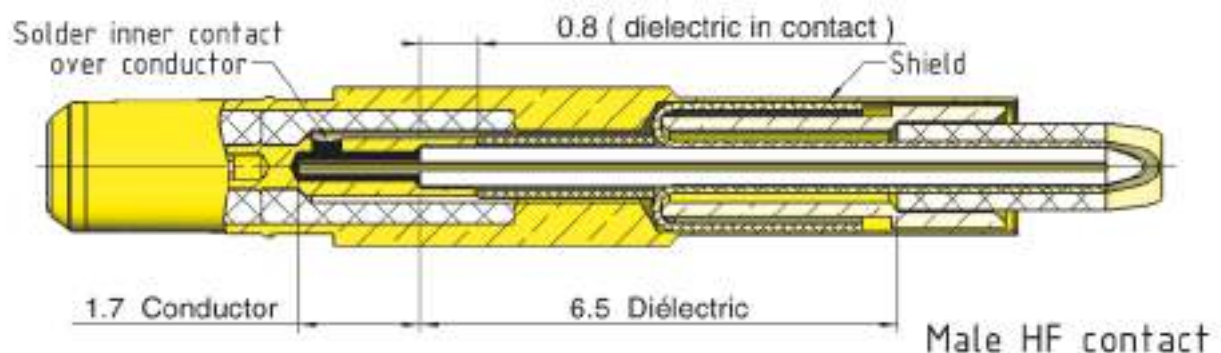
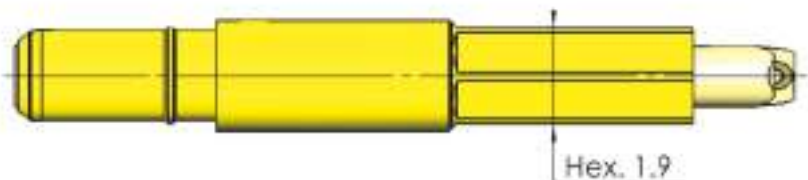
- 2/ - Thread the insulator.
 - Solder the inner contact on the conductor.



- 3/ - Thread to the body.
 - Beware that the inner contact's hook goes entirely through the body's insulator

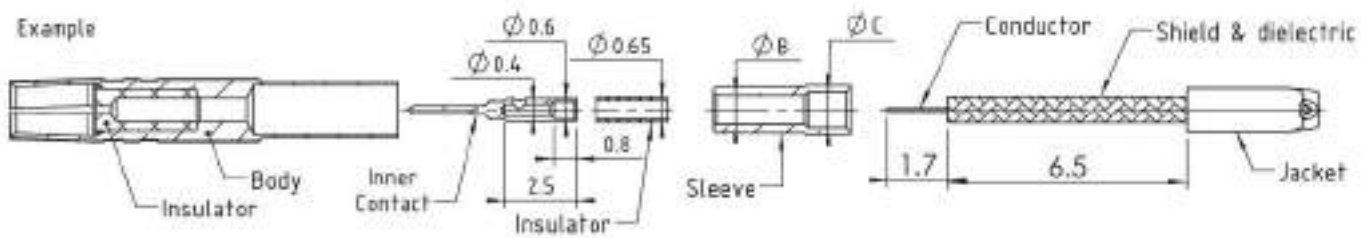


- 4/ CRIMP :
 - Tool : DANELS HX3
 - Die : C13847
 - Position : 8.95 coax 22
 - Hexagone : 1.9mm / plats

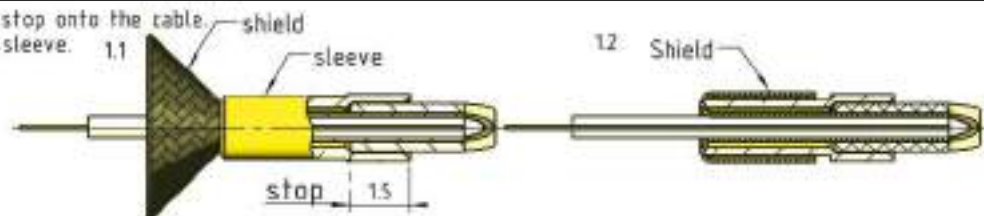


Cable instructions (IC22HF02)

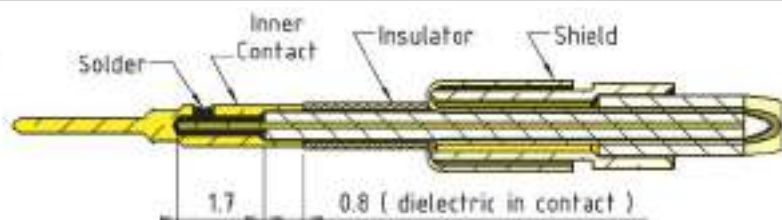
Example



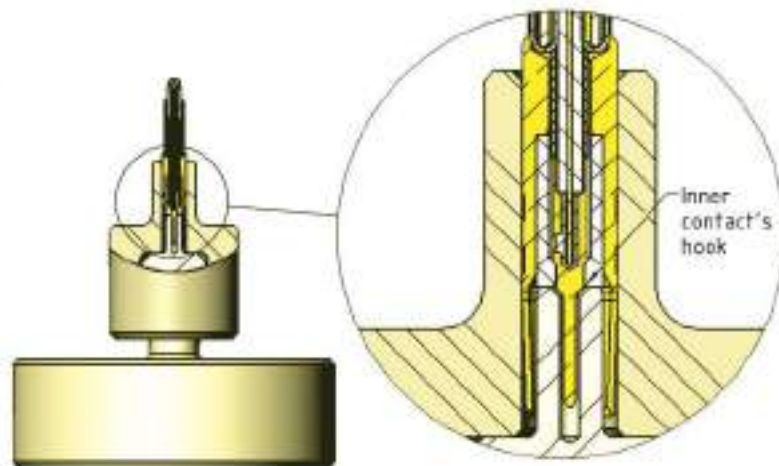
- 1/ 1.1 - Thread the sleeve until stop onto the cable.
1.2 - Place the shield on the sleeve.



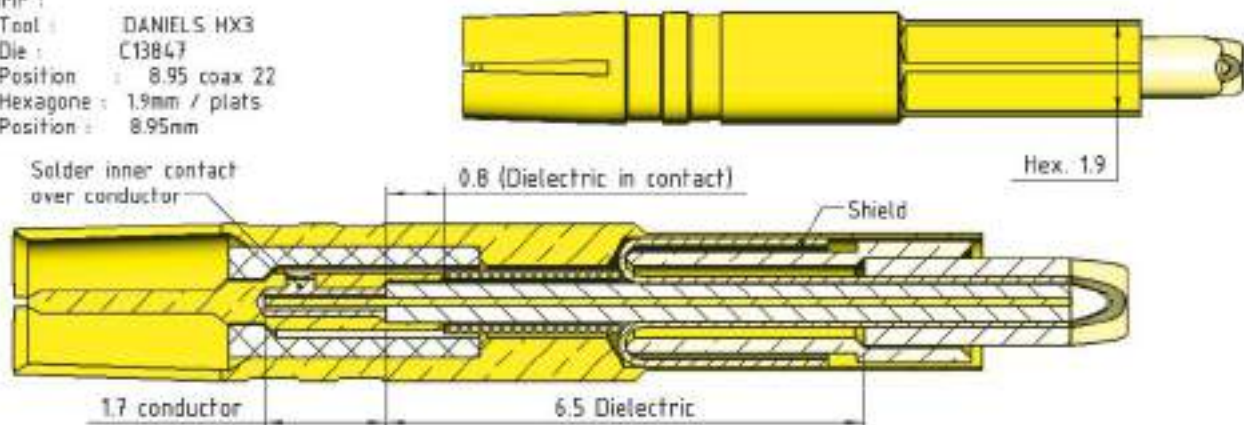
- 2/ - Thread the insulator.
- Solder the inner contact on the conductor.



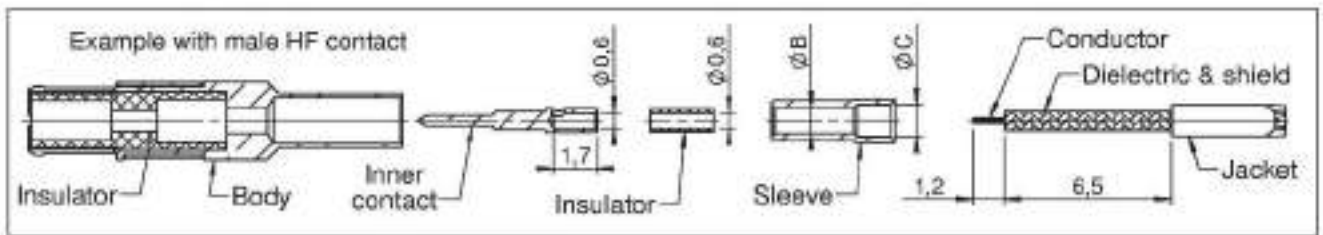
- 3/ - Put the contact body in the tool C16447.
- Thread to the body.
- Beware that the inner contact's hook goes entirely through the body's insulator.



- 4/ CRIMP :
- Tool : DANIELS HX3
- Die : C13847
- Position : 8.95 coax 22
- Hexagone : 1.9mm / plats
- Position : 8.95mm



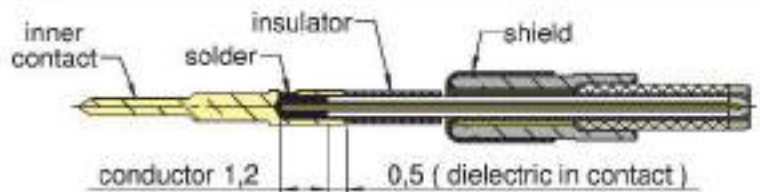
Cable instructions (IC30HF01)



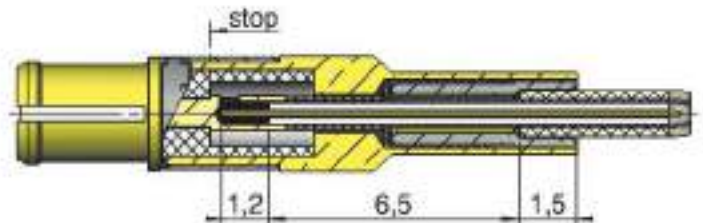
- 1 - Thread the sleeve until stop onto the cable
- Place the shield on the sleeve



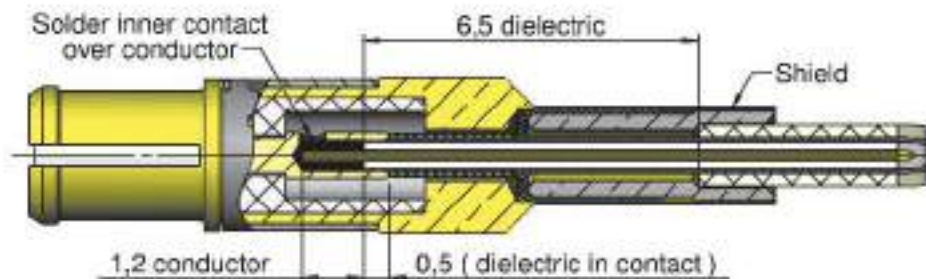
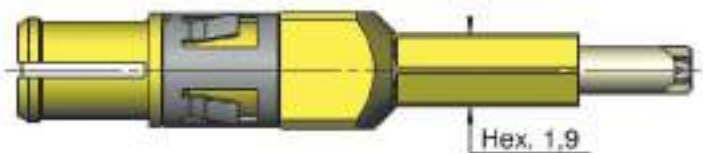
- 2 - Thread the insulator
- Solder the inner contact on the conductor



- 3 - Thread to the body.



- 4 - CRIMP
- Tool : DANIELS HX3
- Die : C13847
- Hexagone : 1,9 mm / flat
- Position : 9,95 mm



Female HF contact

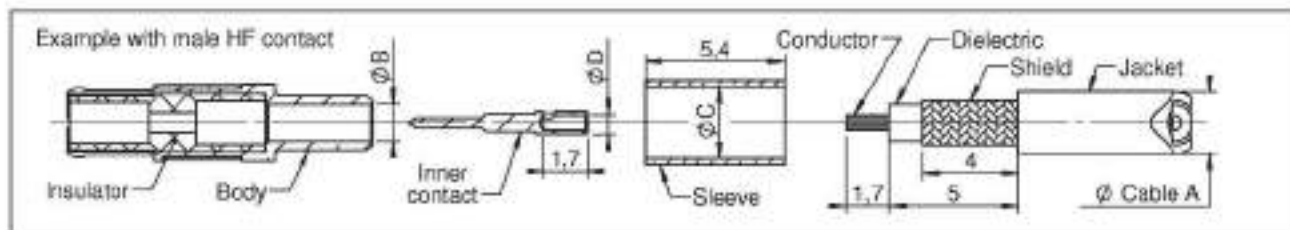


	ØB	ØC	Sleeve
P/N terminal -01	I	1,25	EB EC
P/N terminal -02	0,85	1,15	

Male HF contact



Cable instructions (IC30HF02)

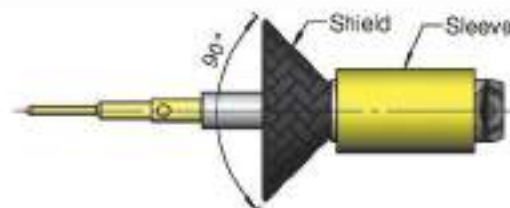


	Cable ØA	Body ØB	Sleeve ØC	Contact ØD	Central crimp DANIELS MH800		Hexagonal imprint E sleeve crimp DANIELS HX3 tool				
					Positioner K1131		Die C13847			Die C14680	
					Conductor Ø 0,3	Conductor Ø 0,5	Hex.1,9	Hex.2,4	Hex.2,8	Hex.3,25	Hex.4
30-x320-SS	2 mm	1 mm	2,2 mm	0,5 mm	Position 2 / 3	Position 3 / 4		x			
30-x320-DS	2,3 mm	1 mm	2,8 mm	0,5 mm					x		
30-x324-SS	2,4 mm	1,5 mm	2,8 mm	0,6 mm					x		
30-x326-SS	2,7 mm	1,7 mm	2,8 mm	0,6 mm					x		
30-x326-DS	3 mm	1,7 mm	3,25 mm	0,6 mm						x	

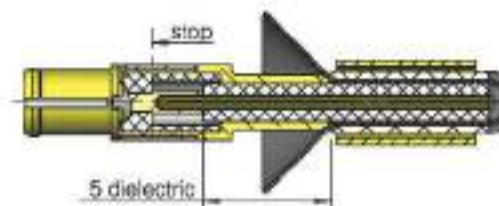
- 1 - Mount the inner contact on the conductor and solder or crimp.
(crimping with DANIELS MH800 positioner K1131)



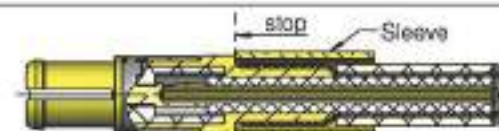
- 2 - Thread the sleeve onto the cable and bent the shield at 90°.



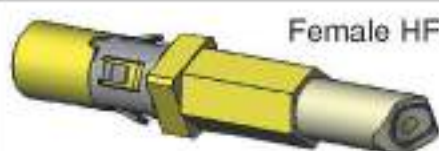
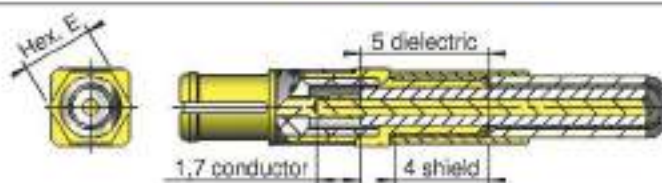
- 3 - Push until stop inside the body.



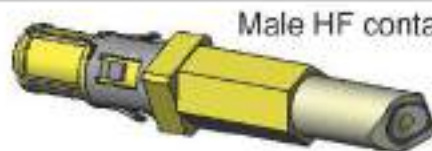
- 4 - Thread the sleeve until stop on the body so as to bent the shield.



- 5 - Crimp the sleeve



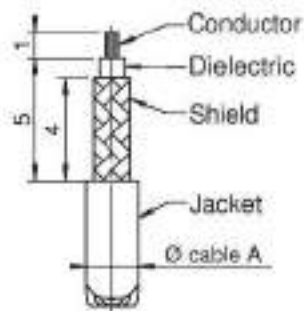
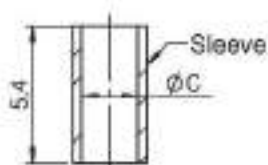
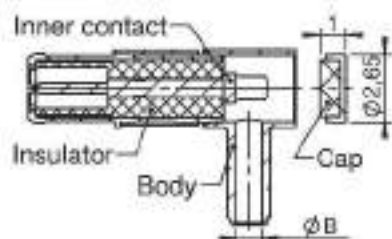
Female HF contact



Male HF contact

Cable instructions (IC30HF03)

Example with male HF contact



1 - Thread the sleeve on cable and bent the shield at 90°

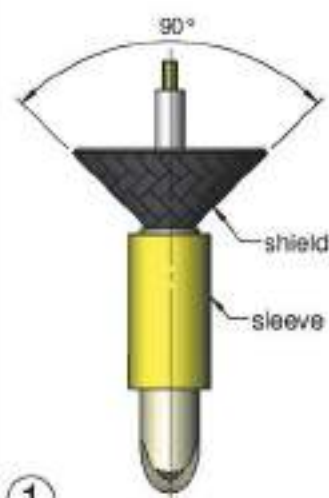
2 - Place the inner contact until stop in the body. Insert the cable and solder the conductor onto the inner contact

3 - Thread the sleeve until stop on the body so as to bent the shield

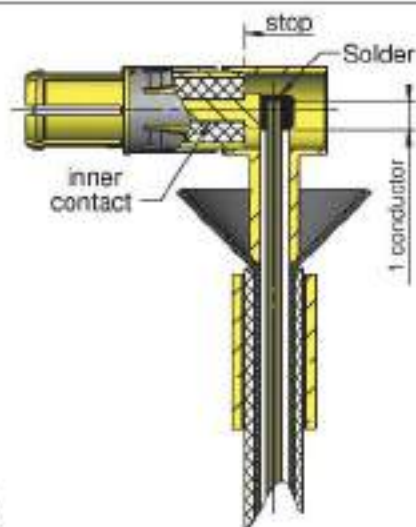
4 - Crimp the sleeve with DANIELS HX3 tool and mount the back cap with tool P/N C14772

Hexagonal imprint E sleeve crimp DANIELS HX3 tool

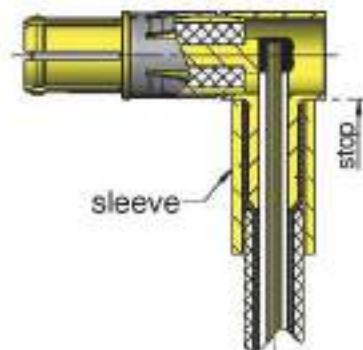
	Cable ØA	Body ØB	Sleeve ØC	Contact	Die C13847			Die C14680	
					Hex.1,9	Hex.2,4	Hex.2,8	Hex.3,25	Hex.4
30-x412-ZS	1,2 mm	0,7 mm	1,3 mm	solder	x				
30-x420-ZS	2 mm	1 mm	2,2 mm	solder		x			
30-x420-DS	2,3 mm	1 mm	2,8 mm	solder			x		
30-x424-ZS	2,4 mm	1,5 mm	2,8 mm	solder			x		
30-x426-ZS	2,7 mm	1,7 mm	2,8 mm	solder			x		
30-x426-DS	3 mm	1,7 mm	3,25 mm	solder				x	



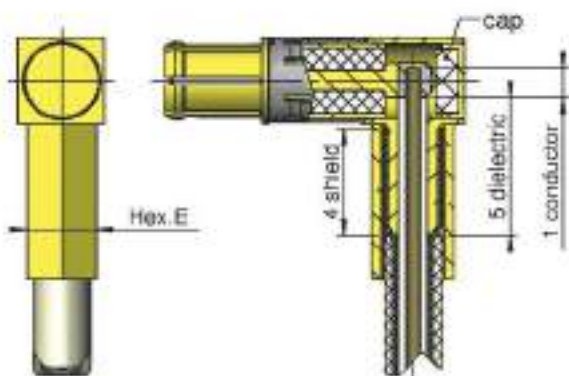
1



2

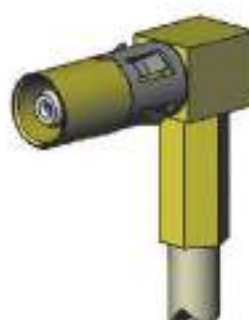


3

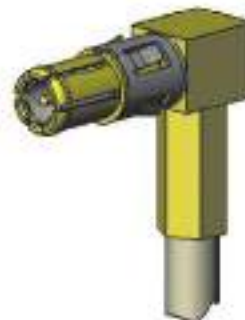


4

Female HF contact

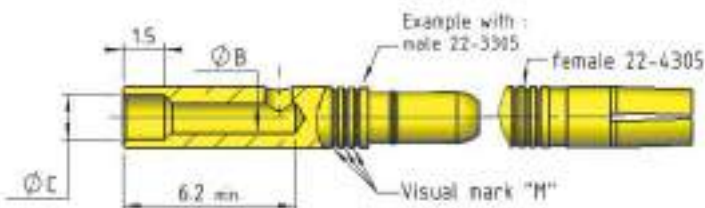
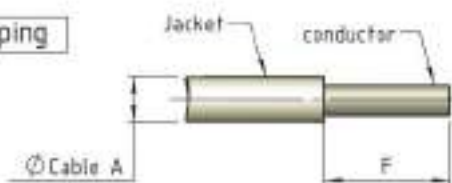


Male HF contact



Cable instructions (IC22HP02)

Stripping



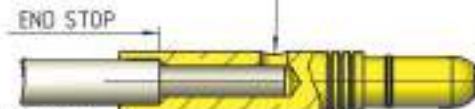
Loaded	Unloaded	Cable A			ØB	ØC	Length F conductor	M	Solder	Crimp by APB Tool / Positioner	Crimp tool setting - Number selector		
		AWG20	AWG18	AWG16							AWG20	AWG18	AWG16
3305	22-3305	X	NA		1.1 mm	1.65 mm	4.5 mm	x3			4		NA
3308	22-3308	NA	X	NA	1.35 mm	1.85 mm	4.5 mm	x2	OK	16459 / C16461	NA	5	NA
3310	22-3310		X		1.7 mm	NA	6 mm	x1			4	5	6

Loaded	Unloaded	Cable A			ØB	ØC	Length F conductor	M	Solder	Crimp by APB Tool / Positioner	Crimp tool setting - Number selector		
		AWG20	AWG18	AWG16							AWG20	AWG18	AWG16
4305	22-4305	X	NA		1.1 mm	1.65 mm	4.5 mm	x3			4		NA
4308	22-4308	NA	X	NA	1.35 mm	1.85 mm	4.5 mm	x2	OK	16459 / C16461	NA	5	NA
4310	22-4310		X		1.7 mm	NA	6 mm	x1			4	5	6

NA : Not Applicable

The conductor must be visible through the inspection window of the contact

- 1 - Insert the cable into the contact



- 2 - Set the hand crimp tool according to crimp barrel accommodation table above.

- 2.1 - Select the number selector with the selector knob (see crimp tool setting).
- 2.2 - Put the positioner C16461 on the hand crimp tool 16459.

- 3 - Insert the contact and wire assembly in the crimp guide of the hand crimp tool.

- 3.1 - In the crimp guide, the contact and wire assembly must be in the ends stop position.
- 3.2 - During crimping, keep the wire in position.
- 3.3 - Just one crimping operation is allowed per contact and wire assembly.



- 4 - Visually check crimping

- 4.1 - Crimping must not deform the inspection window.
- 4.2 - Contact must not have visible fractures or cracks.
- 4.3 - Contact barrel must not be deformed or bent.
- 4.4 - Crimping must not deform the end of the contact.

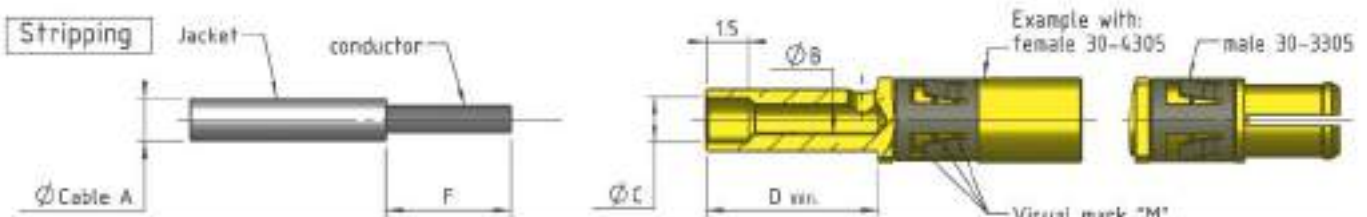


- 5 - Check it is firmly crimped by pulling gently

- 5.1 - For that purpose two (2) fingers are enough : pinch the wire and pull smoothly along the axis of the crimped contact



Cable instructions (IC30HP02)



Loaded	Unloaded	Cable A					ØB	ØC	Length F conductor	Length D hole	M	Solder	Crimp by AFB Tool / Positioner	Crimp tool setting - Number selector				
		AWG20	AWG18	AWG16	AWG14	AWG12								AWG20	AWG18	AWG16	AWG14	AWG12
3305	30-3305	X			NA		1.1 mm	1.65 mm	4.5 mm		x3			3				NA
3305	30-3308	NA	X		NA		1.35 mm	1.85 mm			x2			NA	4			NA
3310	30-3310		X		NA		1.7 mm		8 mm	6.2 mm	x1	OK	16459 / C16460	4	4	0		NA
3315	30-3315				X	NA	2 mm	NA			NA						5	NA
3320	30-3320				NA	X	2.6 mm		6.3 mm	6.5 mm							NA	8

Loaded	Unloaded	Cable A					ØB	ØC	Length F conductor	Length D hole	M	Solder	Crimp by AFB Tool / Positioner	Crimp tool setting - Number selector				
		AWG20	AWG18	AWG16	AWG14	AWG12								AWG20	AWG18	AWG16	AWG14	AWG12
4305	30-4305	X			NA		1.1 mm	1.65 mm	4.5 mm		x3			3				NA
4305	30-4308	NA	X		NA		1.35 mm	1.85 mm			x2			NA	4			NA
4310	30-4310		X		NA		1.7 mm		8 mm	6.2 mm	x1	OK	16459 / C16460	4	4	0		NA
4315	30-4315				X	NA	2 mm	NA			NA						5	NA
4320	30-4320				NA	X	2.6 mm		6.3 mm	6.5 mm							NA	8

NA : Not Applicable

1 - Insert the cable into the contact



END STOP only for 30-X310, 30-X315 and 30-X320

2 - Set the hand crimp tool according to crimp barrel accommodation table above:

2.1 - Select the selector number with the selector knob (see crimp tool setting).

2.2 - Put the positioner C16460 on the hand crimp tool 16459.

Hand crimp tool
in a closed position.



3 - Insert the contact and wire assembly
in the crimp guide of the hand crimp tool.

- 3.1 - In the crimp guide, the contact and wire assembly must be in the end stop position.
- 3.2 - During crimping, keep the wire in position.
- 3.3 - Just one crimping operation is allowed per contact and wire assembly.

4 - visually check crimping

- 4.1 - Crimping must not deform the inspection window.
- 4.2 - Contact must not have visible fractures or cracks.
- 4.3 - Contact barrel must not be deformed or bent.
- 4.4 - Crimping must not deform the end of the contact



5 - Check it is firmly crimped by pulling gently

For that purpose two (2) fingers are enough : pinch the wire and pull smoothly along the axis of the crimped contact



Index

General information

CMM presentation	p 2
CMM specifications & dimension tables	p 3-4-5
Contacts information	p 7-11

Male and Female housings marking	p 12-13
Standard part numbering & product families	p 14-15
Custom products & innovations	p 125

CMM 100/200 Series

p 17-25

Contact arrangements & configuration	p 18-19
Male connectors	p 20-22

Female connectors	p 23-25
Retention latches information	p 22

CMM 220 Series

p 27-46

CMM LF introduction page	p 27
Contact arrangements & configuration	p 28
Male connectors with LF contacts	p 29-31
Female connectors with LF contacts	p 32-34
Mixed-Layout introduction page	p 35

Male connectors with Mixed-Layout	p 36-38
Female connectors with Mixed-Layout	p 39-41
Shifted polarization key position	p 42
Fixing hardware information	p 43-46

CMM 320 Series

p 47-59

CMM LF introduction page	p 47
Contact arrangements & configuration	p 48
Male connectors with LF contacts	p 49-50
Female connectors with LF contacts	p 51-52
Mixed-Layout introduction page	p 53

Male connectors with Mixed-Layout	p 54-56
Female connectors with Mixed-Layout	p 57-59
Fixing hardware information	p 69-74

CMM 340 Series

p 60-74

CMM 340 Mixed-Layout introduction page	p 60-61
Contact arrangements & configuration	p 62
Male connectors with Mixed-Layout	p 63-65

Female connectors with Mixed-Layout	p 66-68
Fixing hardware information	p 69-74

High frequency and high power contacts

p 75-102

Insertion & part numbering information for HF & HP contacts series 30	p 75
HF contacts series 30	p 76-86
30-1300-xx (Male straight on PCB)	p 76
30-2300-xx (Female straight on PCB)	p 76
30-1400-xx (Male 90° PCB)	p 77
30-2400-xx (Female 90° PCB)	p 77
30-1500-CMM (Male 90° SMT without LF)	p 78
30-1500-12 (Male 90° SMT for CMM220)	p 79
30-1500-12 (Male 90° SMT for CMM320)	p 80
30-1600 (Male straight SMT for CMM220)	p 81
30-2600 (Female straight SMT for CMM220)	p 81
30-1312-ZS (Male straight crimp on cable)	p 82
30-2312-ZS (Female straight crimp on cable)	p 82
30-13xx-SS / ZS (Male straight crimp on cable)	p 83
30-23xx-SS / ZS (Female straight crimp on cable)	p 83
30-14xx-ZS (Male 90° crimp on cable)	p 84
30-24xx-ZS (Female 90° crimp on cable)	p 84
30-13xx-ZZ (Male straight on semi-rigid cable)	p 85
30-23xx-ZZ (Female straight on semi-rigid cable)	p 85
30-14xx-ZZ (Male 90° on semi-rigid cable)	p 86
30-24xx-ZZ (Female 90° on semi-rigid cable)	p 86
HP contacts series 30	p 87-93
30-3300-xx (Male straight on PCB)	p 87
30-4300-xx (Female straight on PCB)	p 87
30-3400-xx (Male 90°)	p 88
30-4400-xx (Female 90°)	p 88

30-3500 (Male 90° SMT)	p 89
30-4500 (Female 90° SMT)	p 89
30-3600 (Male straight SMT)	p 90
30-4600 (Female straight SMT)	p 90
30-3500-CMM (Male 90° SMT Card Edge)	p 91
30-3500-12 (Male 90° SMT Card Edge CMM220)	p 92
30-3500-12 (Male 90° SMT Card Edge CMM320)	p 93
30-33xx (Male straight on cable)	p 94
30-43xx (Female straight on cable)	p 94

Insertion & part numbering information for HF & HP contacts series 22

p 95

HF contacts series 22	p 96-99
22-1300-xx (Male straight on PCB)	p 96
22-2300-xx (Female straight on PCB)	p 96
22-1400-xx (Male 90° PCB)	p 97
22-2400-xx (Female 90° PCB)	p 97
22-1312-ZS-xx (Male straight to crimp on cable)	p 98
22-2312-ZS-xx (Female straight to crimp on cable)	p 98
22-1320-ZZ (Male straight on cable)	p 99
22-2320-ZZ (Female straight on cable)	p 99

HP contacts series 22

p 100-102	
22-3300-xx (Male straight on PCB)	p 100
22-4300-xx (Female straight on PCB)	p 100
22-3400-xx (Male 90° on PCB)	p 101
22-4400-xx (Female 90° on PCB)	p 101
22-33xx (Male straight on cable)	p 102
22-43xx (Female straight on cable)	p 102

Tools and accessories

p 103-112

Cable instructions & assembly

p 113-122

Index

p 123

Notes

p 124

Notes

A large grid of graph paper for taking notes. The grid consists of 20 columns and 30 rows of small squares, created with thin yellow lines on a white background. It occupies the majority of the page below the 'Notes' header.

Manufacturer and designer of innovative interconnect solutions



MICRO-D MIX™ DMM SERIES MICRO-CONNECTORS

2mm pitch high density robust metal shielded micro connector
Self cabling connector
Simple and easy to design-in
New alternative under MIL-DTL-83513G or MIL-DTL-55302F test routine
Very flexible custom design (fixing hardware, contacts...)



OMM SERIES MICRO-CIRCULAR CONNECTORS

High density of contacts in smallest circular connector shape
Space saving feature
Security of connection
Light weight
Lockable captive fixing hardware



MICROFLEX HARNESS SOLUTION

Low weight: save up to -30% vs. bulky cable
Smaller space-factor
2 in 1 technology with CMM & CRIMPFLEX
Avionic & aerospace MIL comply
High quality of crimp (gaz tie)
High productivity: 2 to 30 contacts in 1 crimp



4D-FLOATING CONNECTORS

4D tolerance absorption: 4D = 3 axial movements + 1 rotation
High efficiency "Bone design" (round shape and 4 spring-lips contact)
Complies with MIL-DTL-55302F
Auto alignment feature
Adaptable to customer requests



CUSTOM PRODUCTS

You can rely on our R&D department know-how and long experience.
Our permanent innovation was recognized and labeled as "highly Innovative" by the European Union
Our in-house production and assembly capacity offers you the possibility to create customized products : stamping and moulding, micro-screw machining, laser cut, CNC, specific machinery development, clean room, measure and test lab.
Fully integrated industrial company, Nicomatic can reduce your risks, can secure your development and achieve the solution that will make the difference on the market.

Date of issue : May 2011
Catalogue reference : C.CMM.1000/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 2011 by NICOMATIC (All Rights Reserved).



HEADQUARTER

FRANCE

T: +33 (0)4 50 36 13 85
france@nicomatic.com

MEMBER OF
Gifas - Eden
Aerospace cluster

SUBSIDIARIES

UNITED STATES

T: +1 21 54 44 95 80
usa@nicomatic.com

CHINA

T: +86 (0)22 23 85 88 36
china@nicomatic.com

INDIA

T: +91 80 421 315 74
india@nicomatic.com

UNITED KINGDOM

T: +44 (0) 11 83 80 10 33
uk@nicomatic.com

GERMANY

T: +49 (0)33 203 878 801
germany@nicomatic.com

TURKEY

T: +90 (0) 312 504 37 29
turkey@nicomatic.com

SOUTH KOREA

T: +82 (0)2 553 6822
korea@nicomatic.com

JAPAN

T: +81 (0)80 2138 0909
japan@nicomatic.com

SINGAPORE

T: +65 62 62 12 80
singapore@nicomatic.com

CANADA

T: +41 (0) 438 885 3395
canada@nicomatic.com

TAIWAN

T: +886 (0)2 2311 2667
taiwan@nicomatic.com

CAREER

COME & JOIN US

- Improving technology
- Diversity & gender equality
- We promote initiative & responsibility

READY TO JOIN OUR TEAM?

recruitment@nicomatic.com



WEBSITE
nicomatic.com