



NICOMATIC

MICRO-CONNECTOR CMM SERIES

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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		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	70	

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

Female:

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

CRIMP LF CONTACTS :

Male:

Body : copper alloy / Ni + Au > 1 μ

Female:

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

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 m Ω
- Insulation resistance 1 000 M Ω 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 3 cycles (Crimp contacts only)

ENVIRONMENTAL

- Temperature range 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/s² (15 gn) peak]
- Shock severity 100 g for 6 ms
- Solvent resistance HcFc 141 bMGX (ATOCHEM) solvent

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 2500 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)

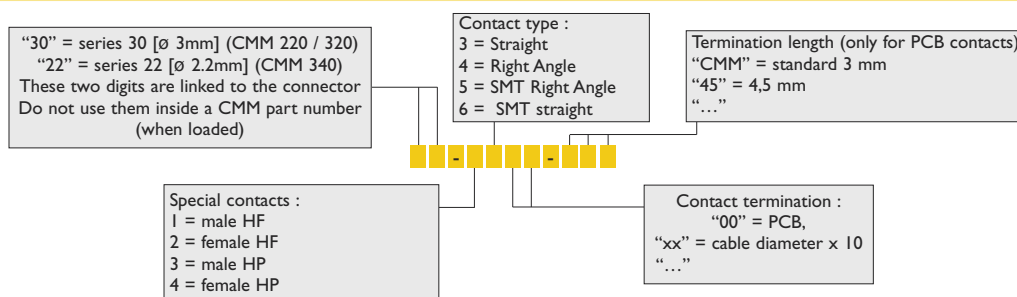
ELECTRICAL

High Power (HP) Contact		High Frequency (HF) Contact	
Intensity	Series 30 : 20 A Series 22 : 10 A } depending on cable	Impedance	50Ω / 75Ω
Contact resistance	max. 6 mΩ	Insulation resistance	10 ⁶ MΩ / 250 V (RMS)
Maximum voltage (sea level)	1000 V (RMS)	SWR (Stationary wave rate)	< 1.05 + 0.04 F (GHz)
Operating voltage (sea level)	180 V AC/500 mA	Frequency range	Series 30 : 6 GHz Series 22 : 1,5 GHz } depending on cable
		Insulation between 2 contacts	-100 dB (depending on cable)

ENVIRONMENTAL

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

HF / HP CONTACTS PART NUMBERING



Important notice:

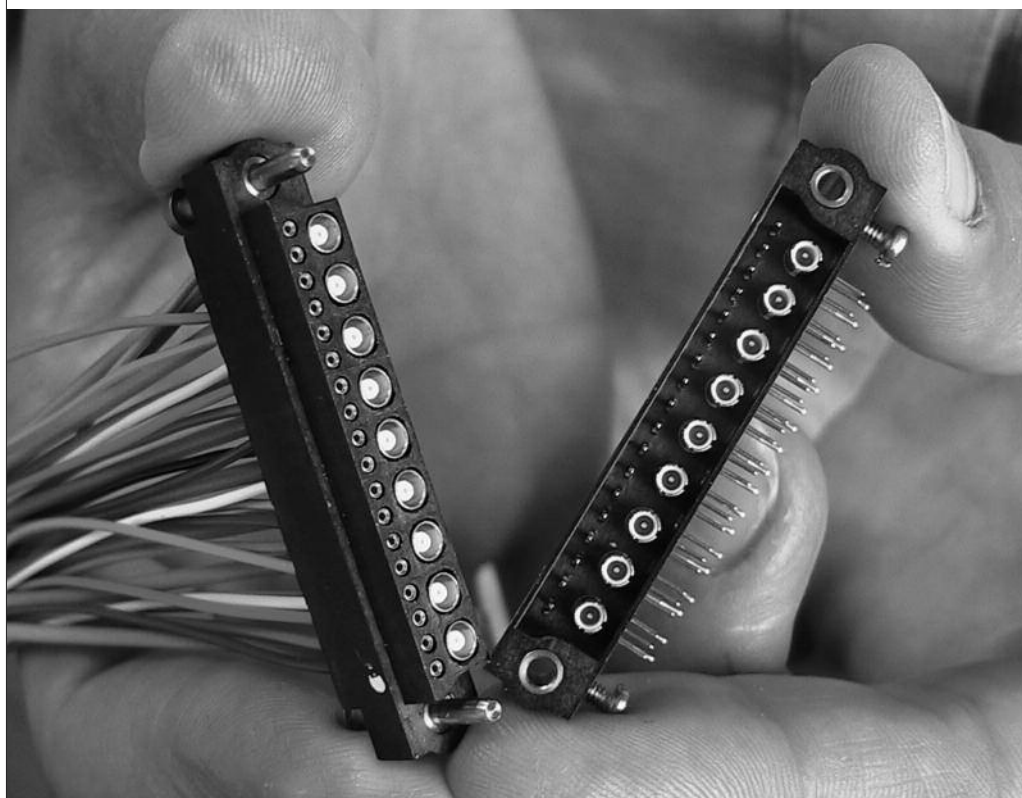
According to the routines test other than MIL our technical features for CMM Micro-connectors reach a higher result. Please contact technic@nicomatic.fr for more information.

For example:

- LF: up to 5A max.@ 25°C
- HF: up to 11 GHz
- HP: up to 30 A
- 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...

HIGHLIGHT ON CMM CONNECTOR BENEFITS

- **Unlimited style of connector:**
 - Mixed-layout: High, Low frequency & High power in 1 connector
 - PCB solder, SMT, press fit, crimp contacts
 - Board to board, board to wire, wire to wire connections
 - Very small footprint: 2 mm pitch (saves up to 60% space & 50% weight over conventional connectors)
- Meets or exceeds the relevant electrical & environmental performances described in MIL-DTL-55302F & BS-9525-F0033 standards
- Excellent mechanical & environmental characteristics
- Built-in jackscrews for high vibrations
- Resistance to solvents, radiations & oxygen free
- Allows infrared, wave or vapour phase soldering
- High reliability contact design: up to 2 500 cycles
- RoHS & Whiskers free (all contacts are gold plated)
- Short lead time: 1 week delivery service
- 100% quality control
- Proven track record in defense, aerospace & railway as well as other high reliability or technology field applications
- Connector housing marking for full traceability
- Large range of accessories & tools



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

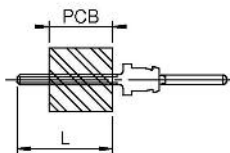
CMM RANGE		USE												
		STRAIGHT ON PCB				90° ON PCB		STRAIGHT SMT		90° SMT	CRIMP			
100/200	Male	Y L=3,0	YL L=4,5	YM L=5,1	YX L=9,1			V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9	C Gauge 22	S Gauge 24-28
	Female	Y L=3,0	YL L=4,5			YC L=1,2	PF Press fit	V L=3,0	VL L=4,5	T L=2,25	TL L=3,35	R L=0,9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

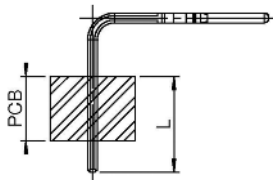
Standard contact

Any other type of contact upon request only

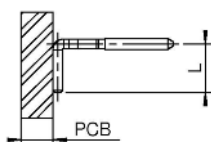
Straight on PCB



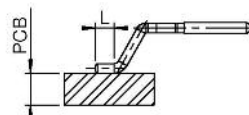
90° on PCB



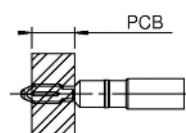
SMT straight on PCB



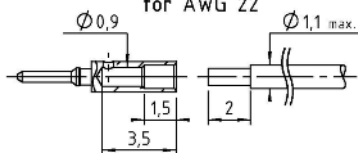
SMT 90° on PCB



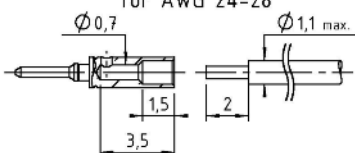
Pressfit Straight on PCB



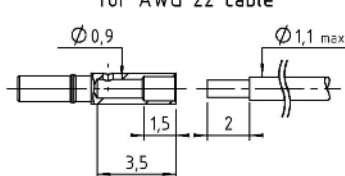
Ref : 12960
Male crimp contact "C"
for AWG 22



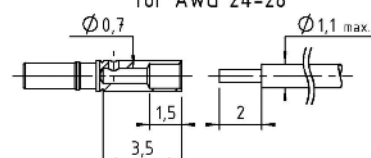
Ref : 12969
Male crimp contact "S"
for AWG 24-28



Ref : C13064-P
Female crimp contact "C"
for AWG 22 cable

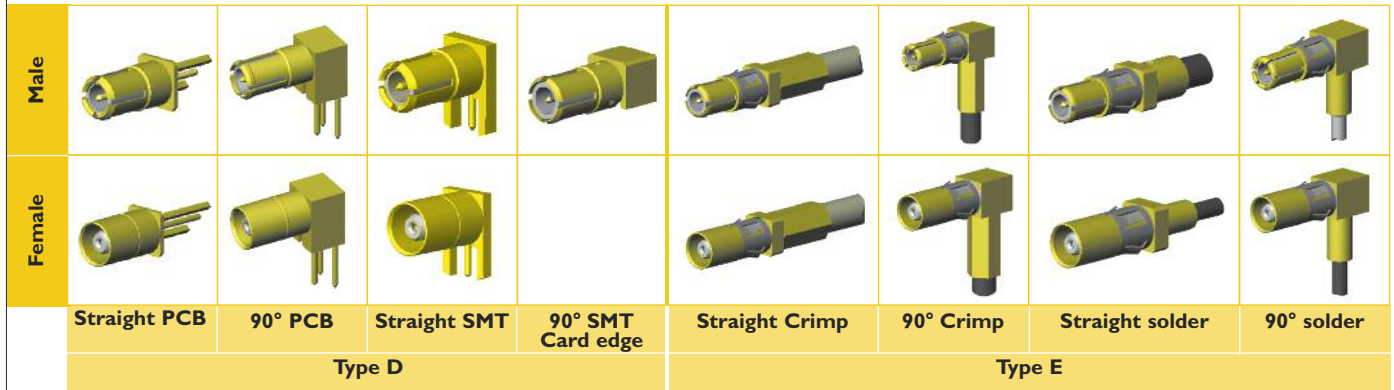


Ref : C12468
Female crimp contact "S"
for AWG 24-28



HF : high frequency contacts (series 30)

PRESENTATION



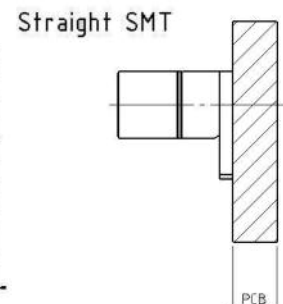
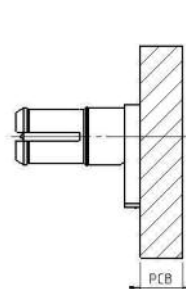
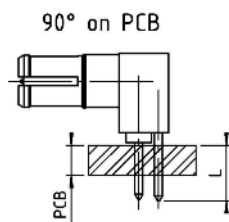
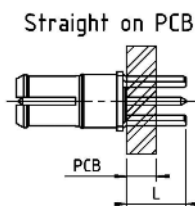
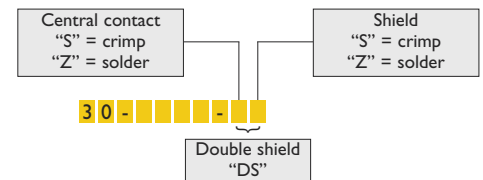
INFORMATION TABLE

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									
	Type D					Type E			
Female									
	Type D					Type E			

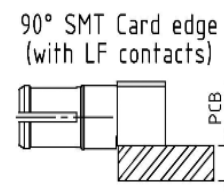
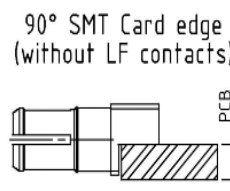
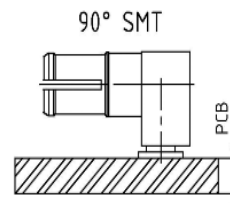
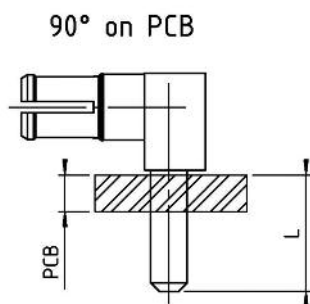
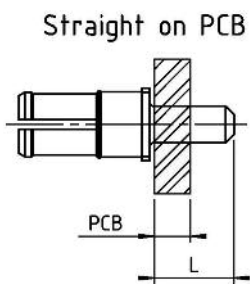
INFORMATION TABLE

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

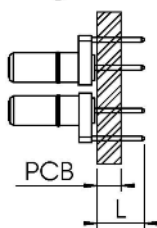
Standard contact
Any other type of contact upon request only

12 = cable Ø 1,2

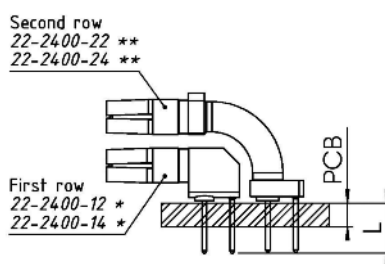
20 = cable Ø 2,0

* 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



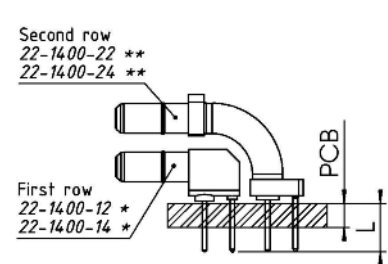
90° on PCB



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

Male								
	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	22-3300-12 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

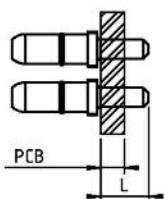
XX = 05, 08, 10
10 = 10A

Please refer
to page 102

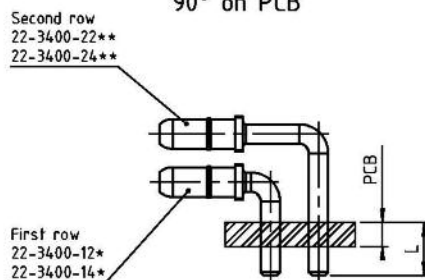
* First row : 22-3400-12 / 22-3400-14 / 22-4400-12 / 22-4400-14

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

Straight on PCB



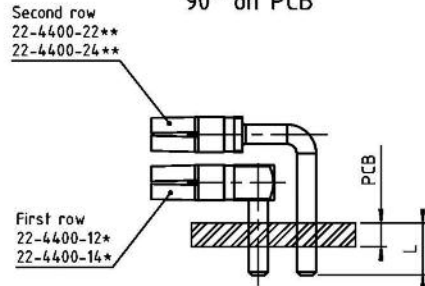
90° on PCB



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

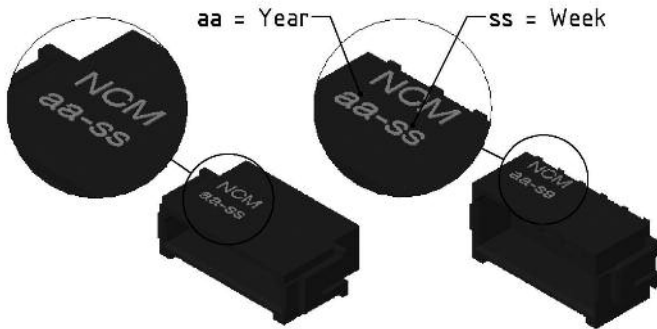


When a two-row connector mixes a 22-4400-12 and a 22-4400-22 contact, the P/N of the HF contact changes to 4400-02.

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.

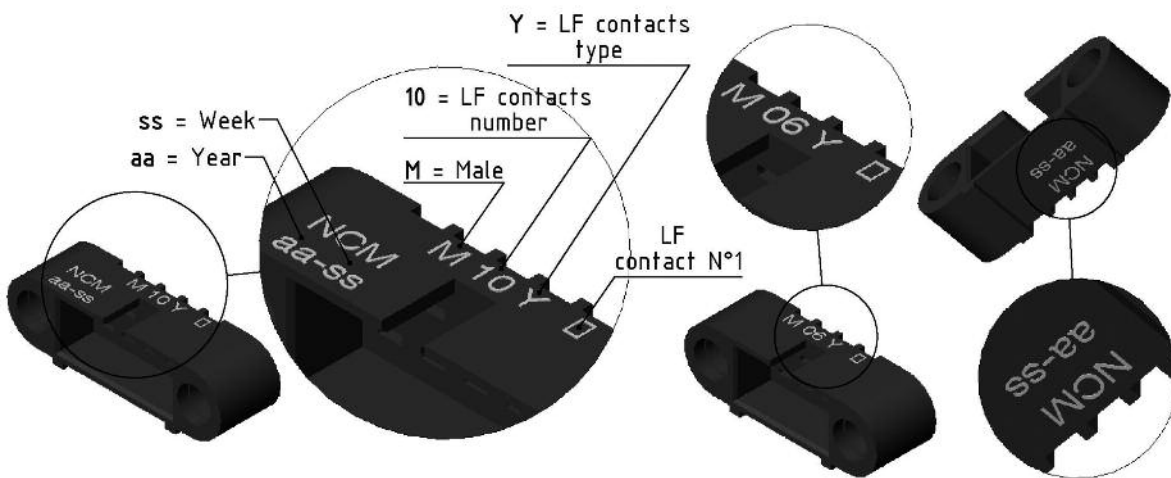
Male housing marking

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

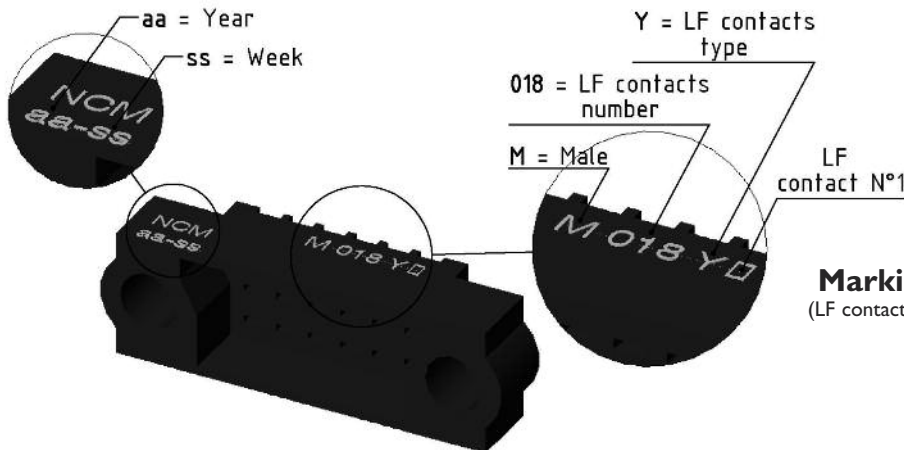
Marking on two faces if the number of LF contacts is < to 10.

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

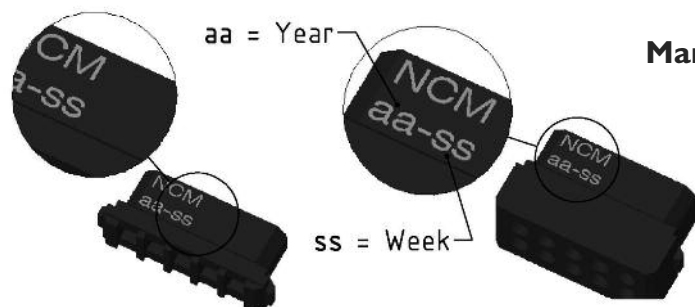
Marking 2 : NCM (Nicomatic) / date code (Lot number) : CMM 320 mixed layout
(as for CMM 100/200)

CMM 320 with HF/HP contacts
CMM 340

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

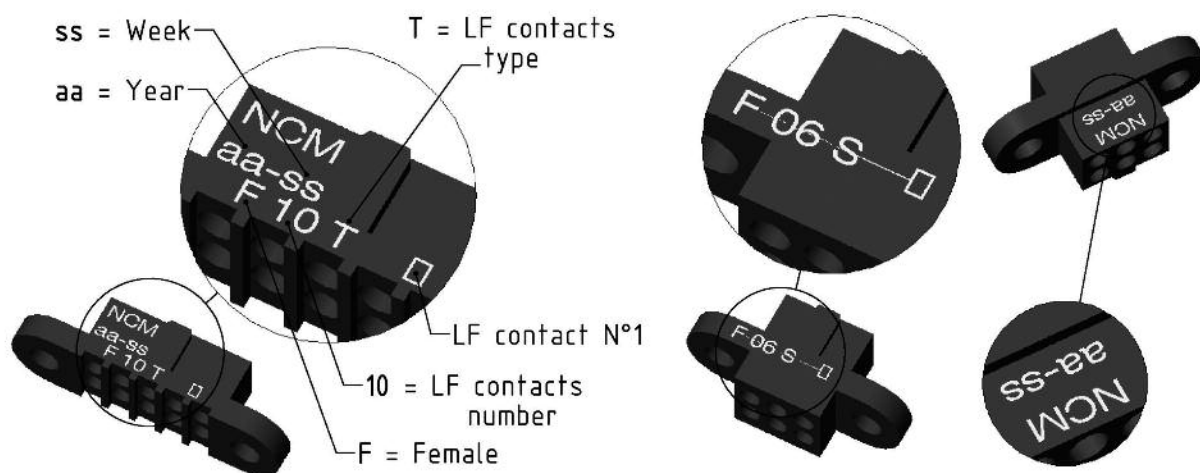
Female housing marking

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 I

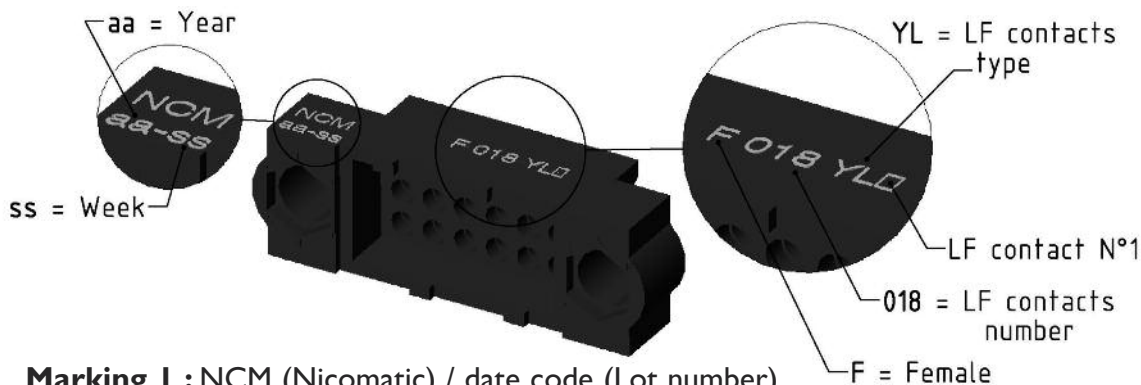
Marking on two faces if the number of LF contacts is < to 10.

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-PF

CMM 320/340



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

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

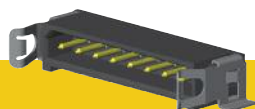
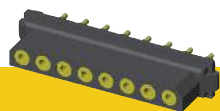
Nicomatic CMM part

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		
<div style="display: flex; justify-content: space-around; align-items: center;"> n n n - y y z z - </div>									
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							



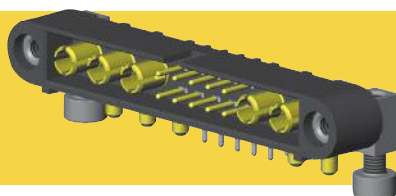
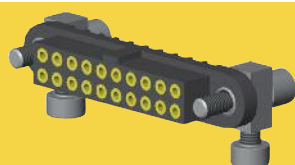
Note :
For any configuration outside of this part numbering system, please contact us.

numbering system



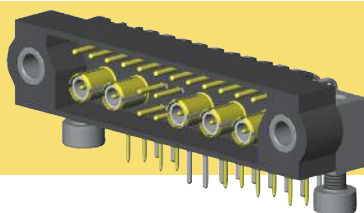
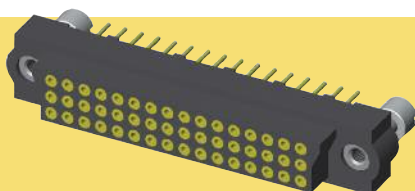
CMM 100/200 Series

p. 17 to 25



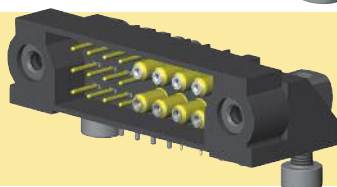
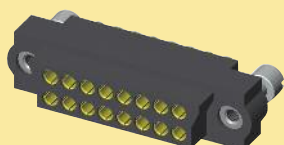
CMM 220 Series

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

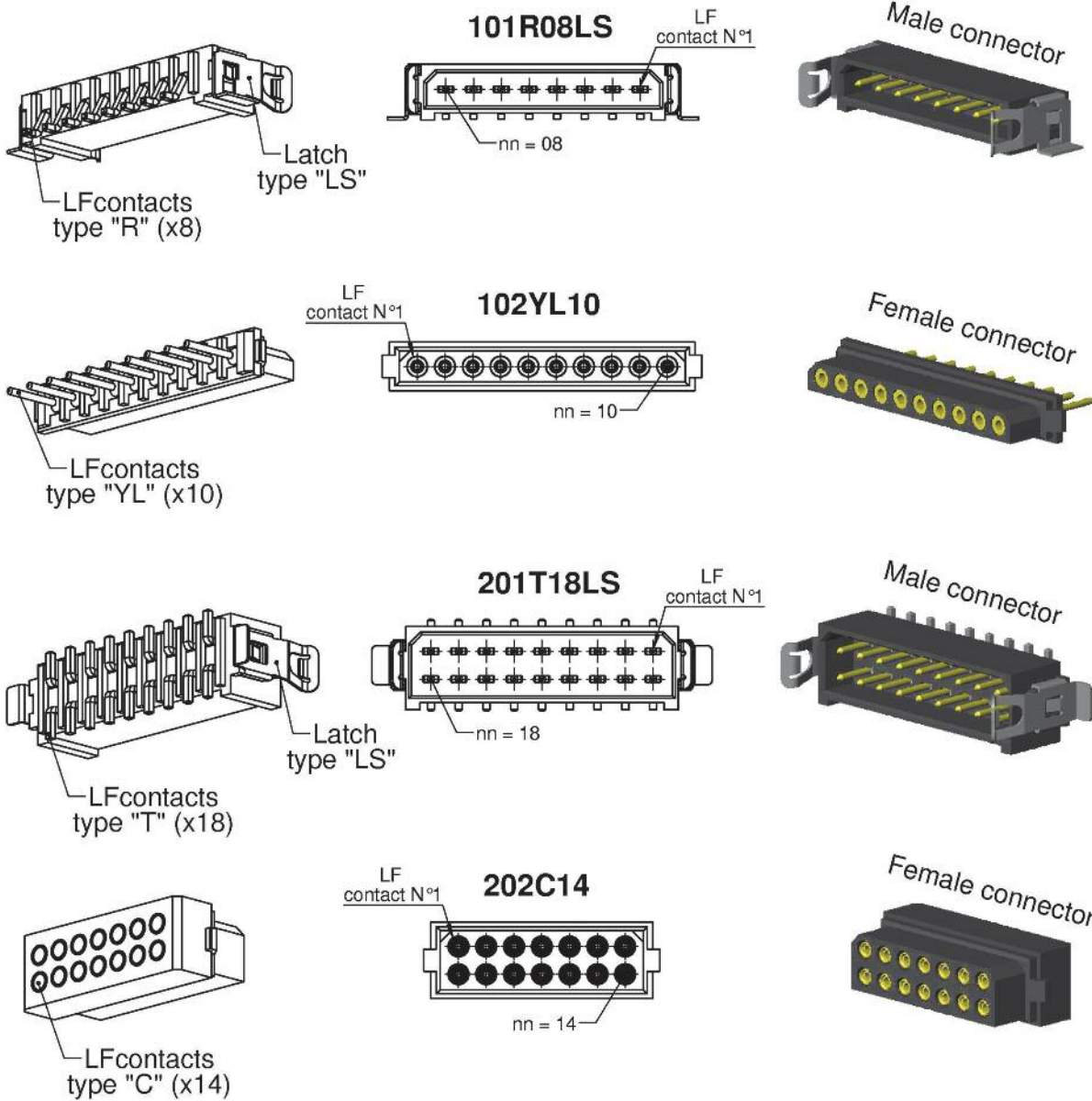
Tools and accessories

p. 103 to 112

Cable instructions & assembly

p. 113 to 122

CMM 100 / 200



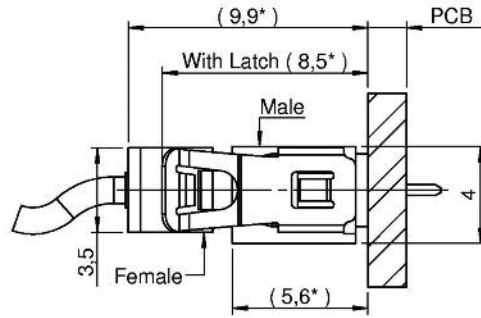
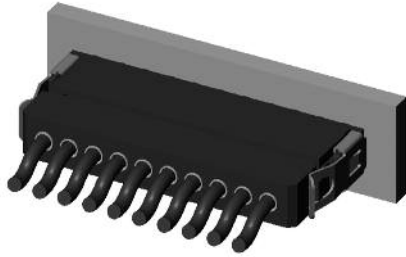
PART NUMBERING REMINDER

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

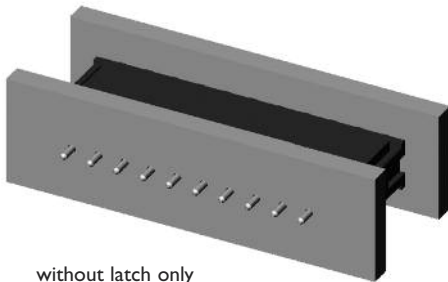
Configuration

CMM 100

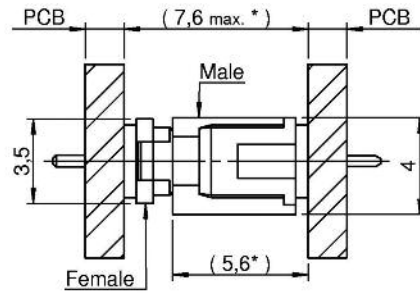
CONNECTOR SPACING



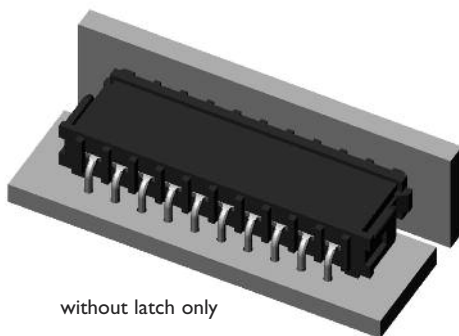
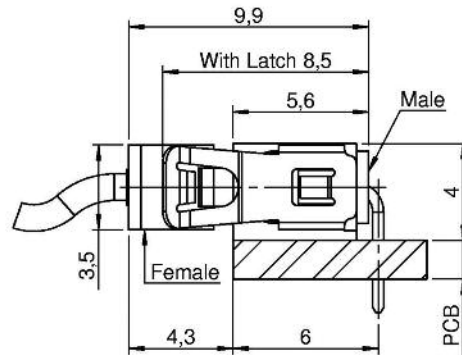
* +0,25mm for male version T



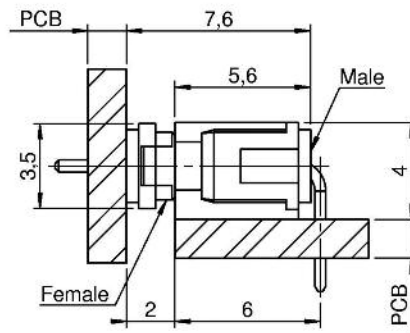
without latch only



* +0,25mm for male version T



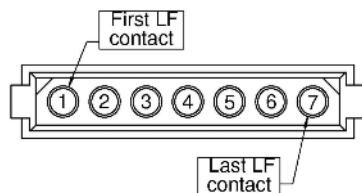
without latch only



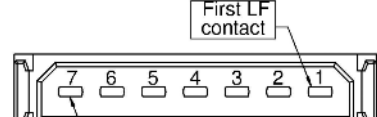
CONTACTS POSITIONS



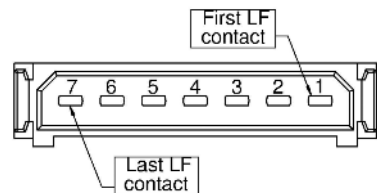
Female connectors
(shown looking onto mating face)



LF contacts min. 02 / max. 25



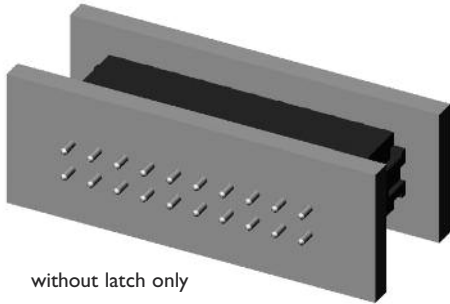
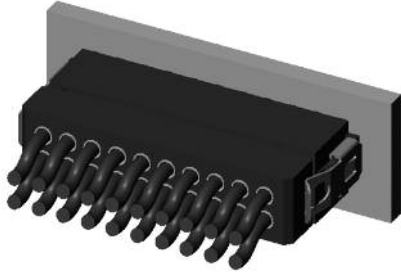
Male connectors
(shown looking onto mating face)



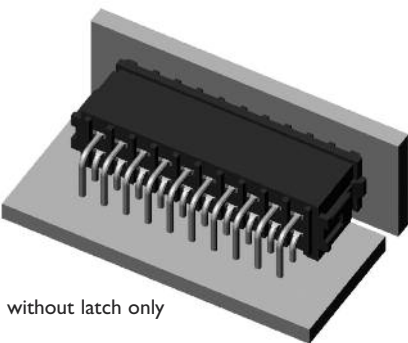
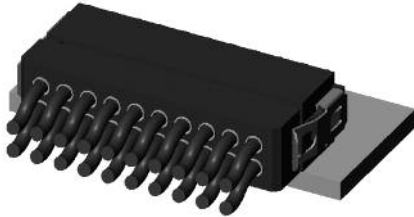
LF contacts min. 02 / max. 25

Configuration CMM 200

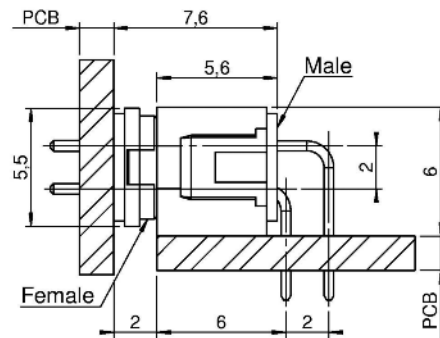
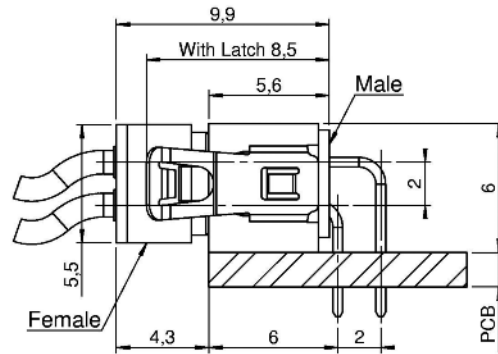
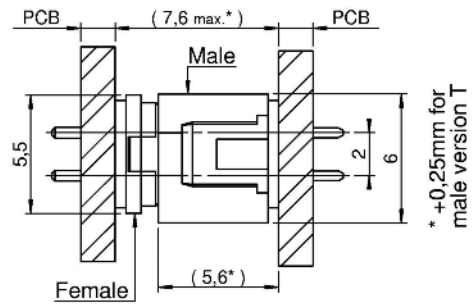
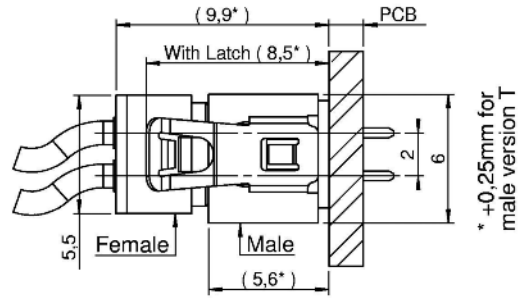
CONNECTOR SPACING



without latch only



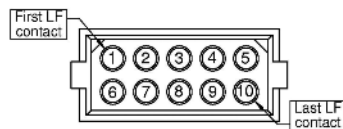
without latch only



CONTACTS POSITIONS

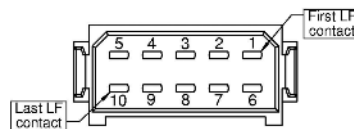


Female connectors
(shown looking onto mating face)



LF contacts min. 04 / max. 50

Male connectors
(shown looking onto mating face)



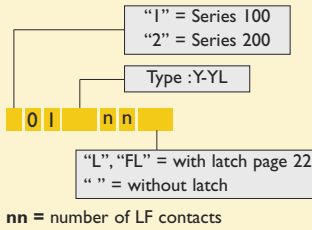
LF contacts min. 04 / max. 50



CMM 100 / 200 male

STRAIGHT PCB

Part numbering :

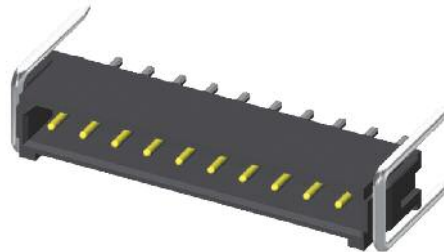
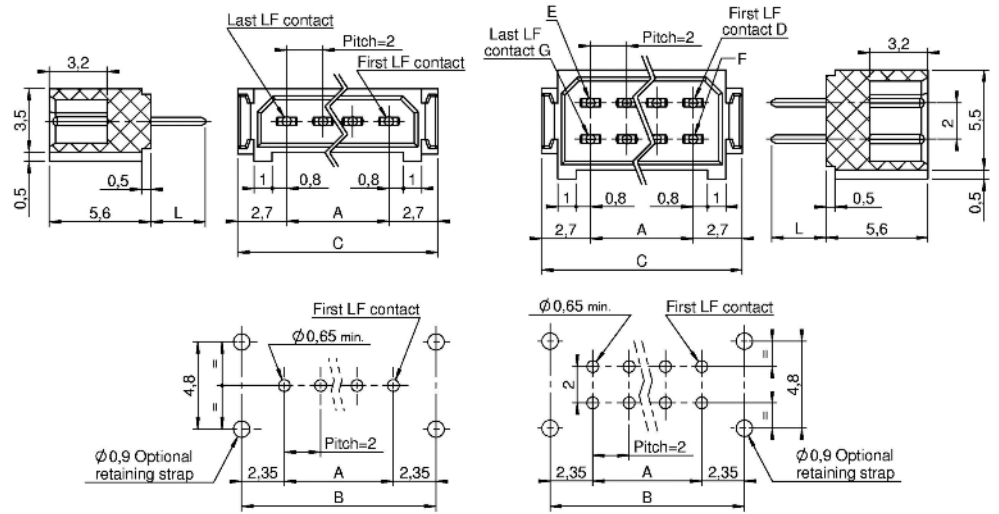


Type	L
Y	3
YL	4,5

Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$B = A + 4,7$	$B = A + 4,7$
$C = A + 5,4$	$C = A + 5,4$

Refer to dimension table on cover page



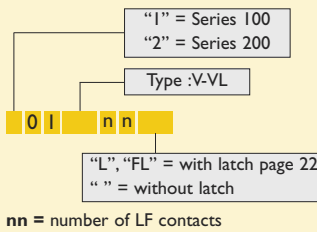
nn min = 02 nn max = 25



nn min = 04 nn max = 50

90° PCB

Part numbering :

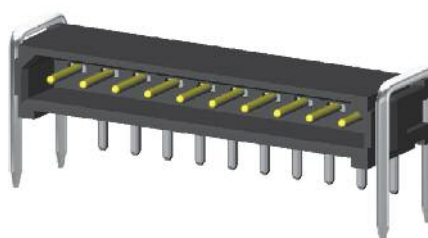
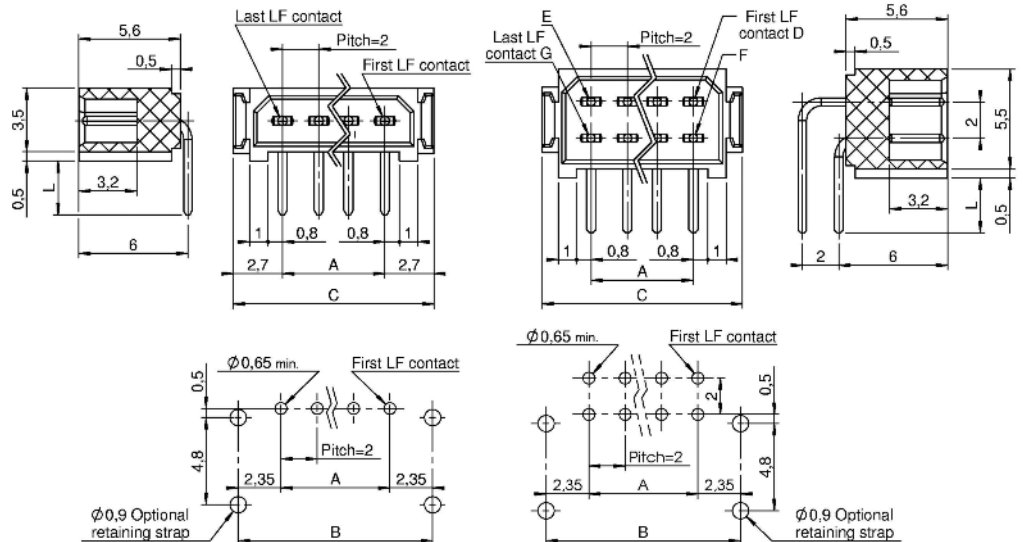


Type	L
V	3
VL	4,5

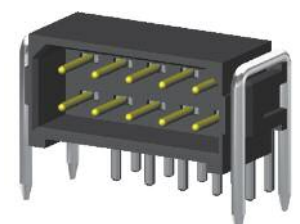
Calculation :

CMM 100	CMM 200
$A = (nn \times 2) - 2$	$A = nn - 2$
$B = A + 4,7$	$B = A + 4,7$
$C = A + 5,4$	$C = A + 5,4$

Refer to dimension table on cover page



nn min = 02 nn max = 25



nn min = 04 nn max = 50

CMM 100 / 200 male

STRAIGHT SMT

Part numbering :

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

Type :T-TL

0 1 n n

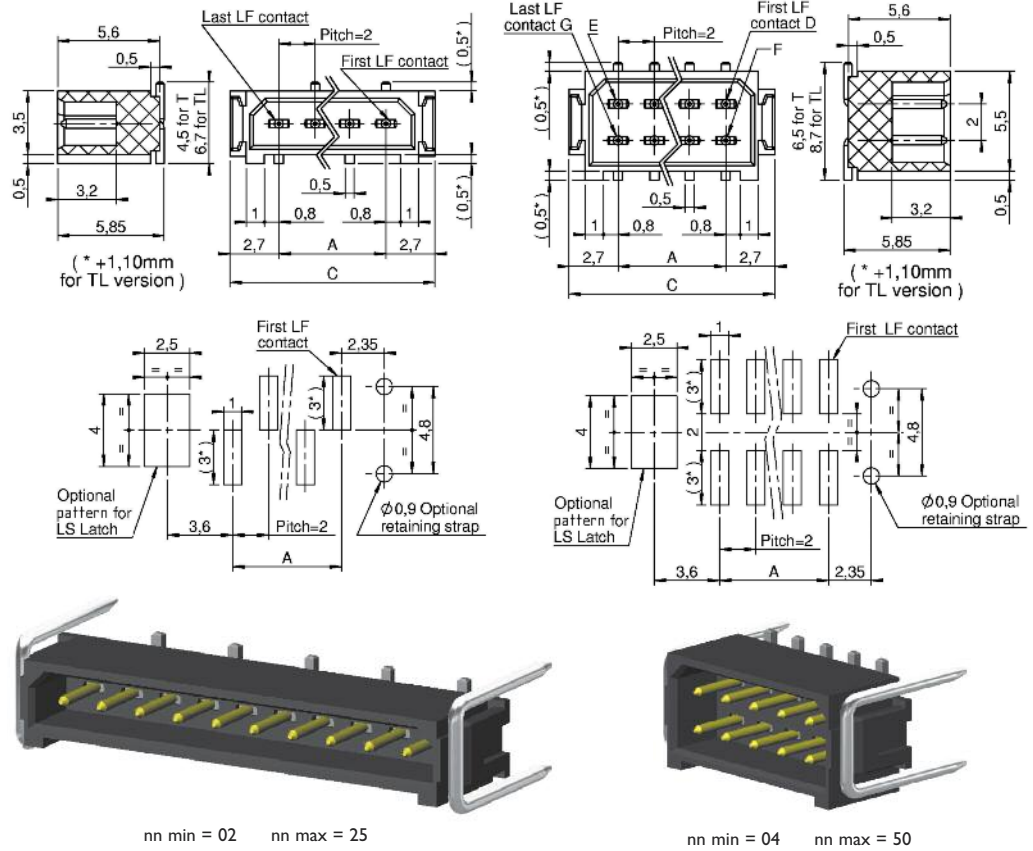
"LS", "L", "FL" = with latch page 22
" " = without latch

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

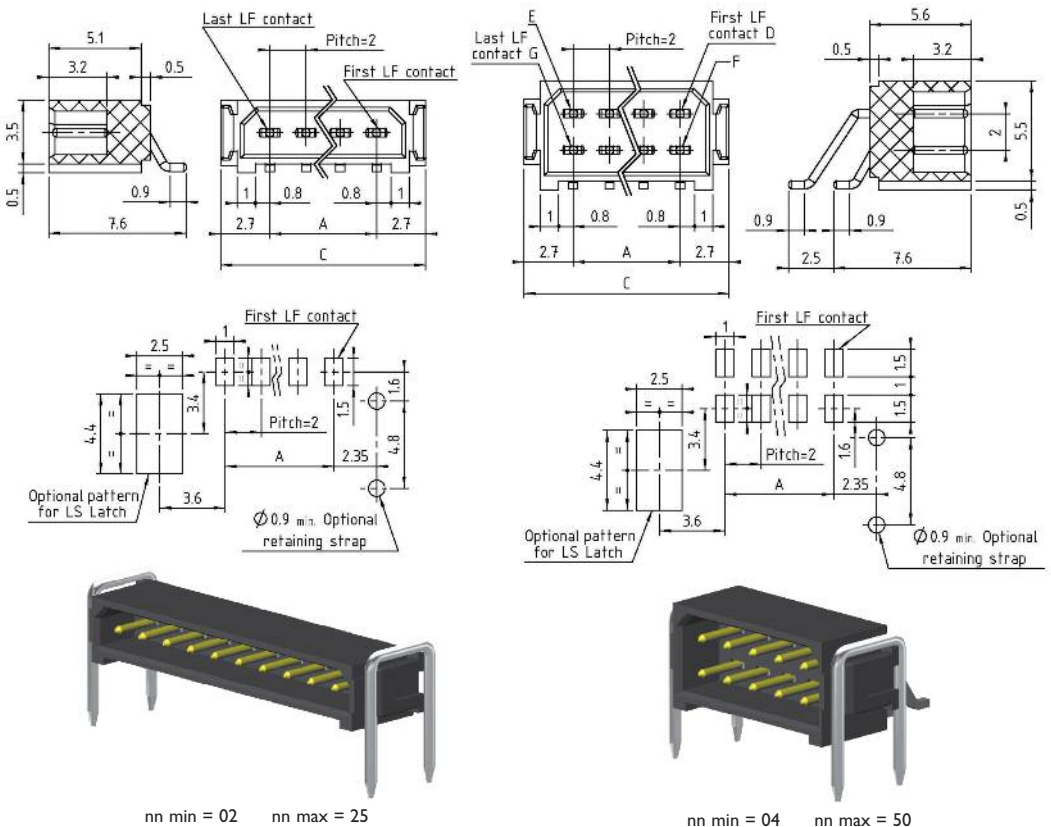
"LS", "L", "FL" = with latch page 22
" " = without latch

nn = number of LF contacts

Calculation :

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

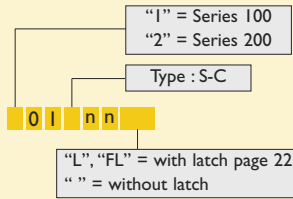
Refer to dimension table on cover page



CMM 100 / 200 male

CRIMP

Part numbering :



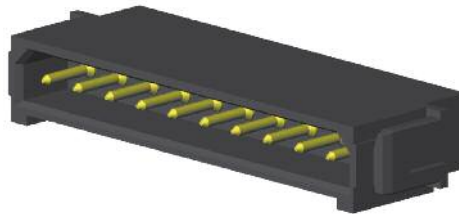
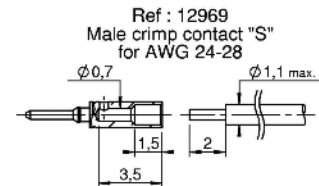
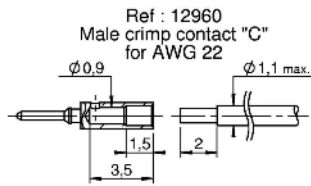
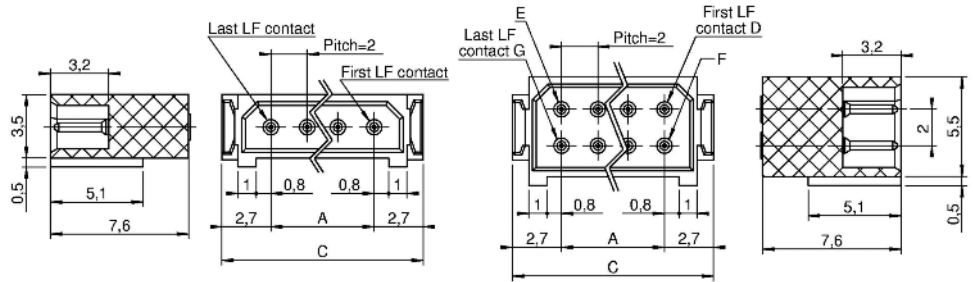
Type	Gauge
S	24-28
C	22

nn = number of LF contacts

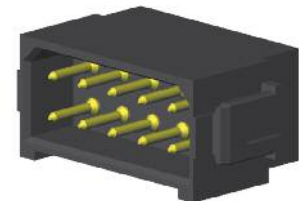
Calculation :

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"

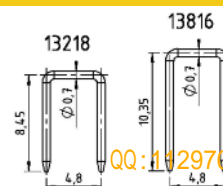
Straight latch without locking "FL"

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

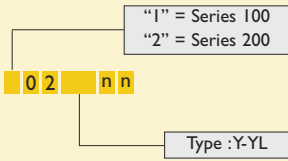


If no strain relief straps with your connector, please order under P/Ns on the left

CMM 100 / 200 female

STRAIGHT PCB

Part numbering :



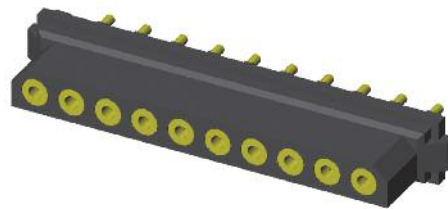
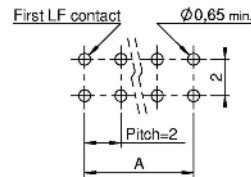
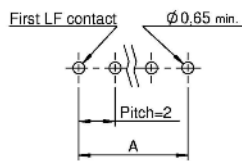
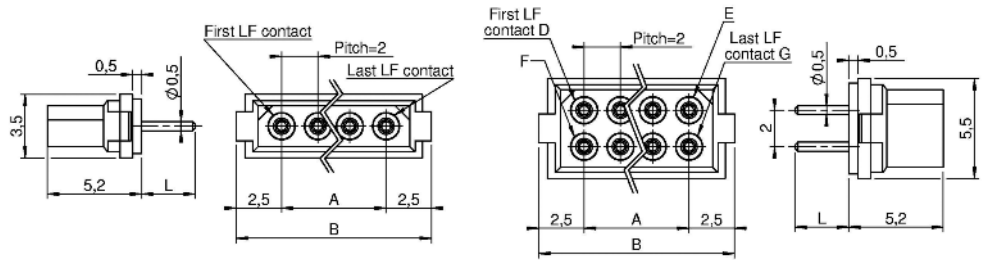
Type	L
Y	3
YL	4,5

nn = number of LF contacts

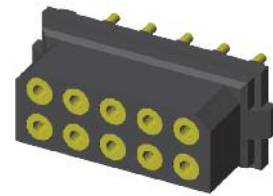
Calculation :

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



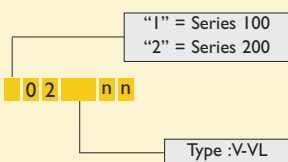
nn min = 02 nn max = 25



nn min = 04 nn max = 50

90° PCB

Part numbering :



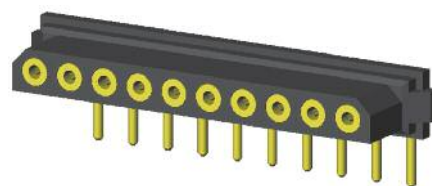
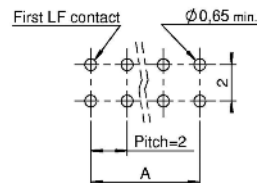
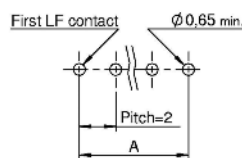
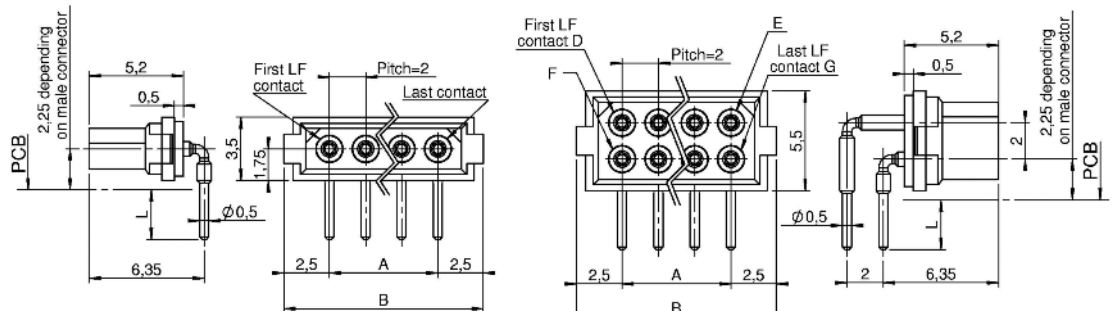
Type	L
V	3
VL	4,5

nn = number of LF contacts

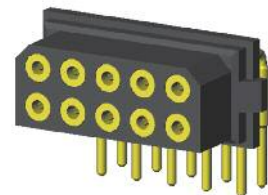
Calculation :

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

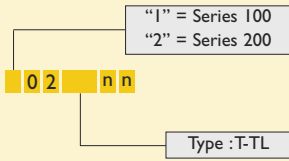


nn min = 04 nn max = 50

CMM 100 / 200 female

STRAIGHT SMT

Part numbering :



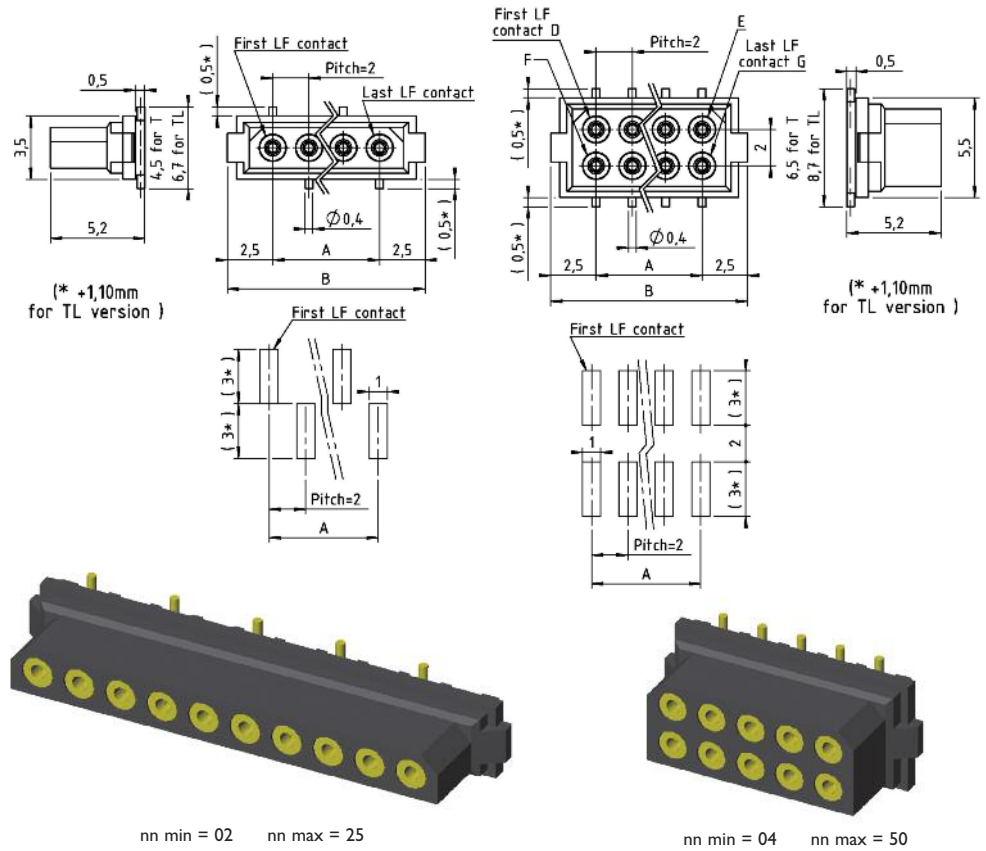
nn = number of LF contacts

Calculation :

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

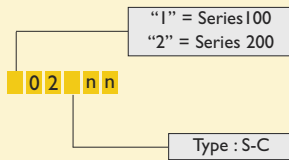
Refer to dimension table on cover page

Optional: Packaging in reel available upon request



CRIMP

Part numbering :



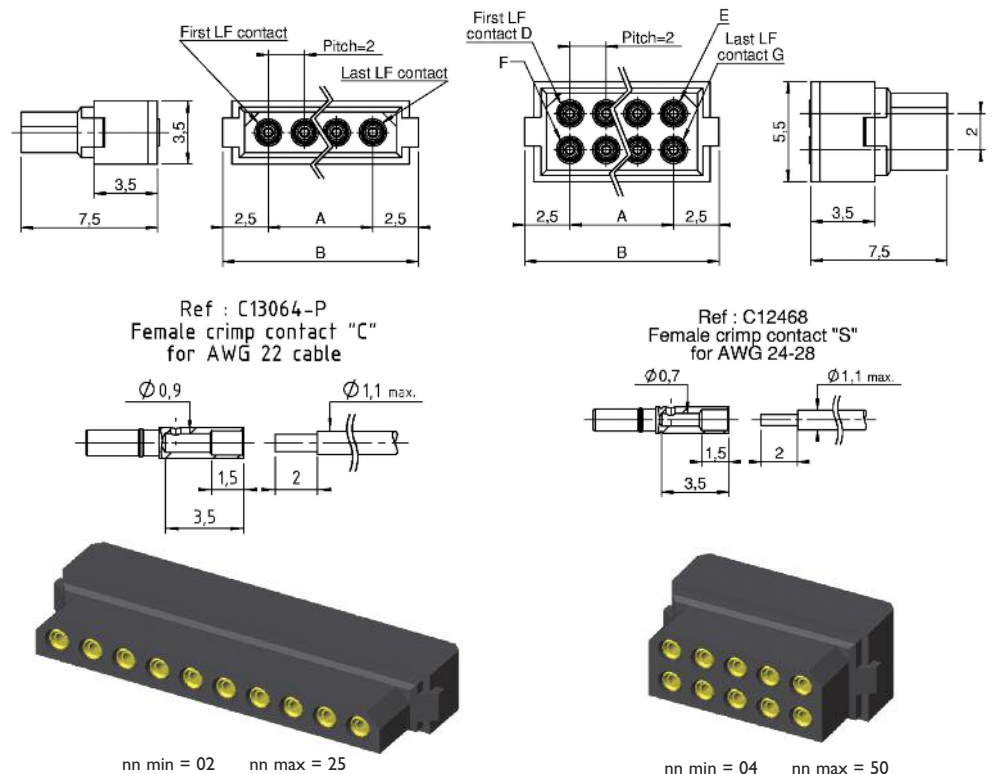
nn = number of LF contacts

Type	Gauge
S	24-28
C	22

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



CMM 100 / 200 female

STRAIGHT PRESS FIT

Part numbering :

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

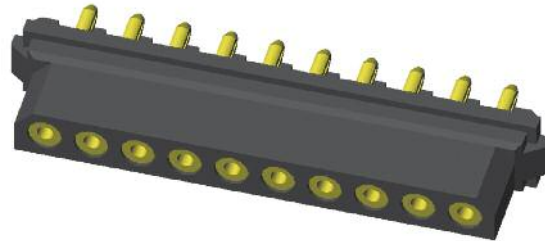
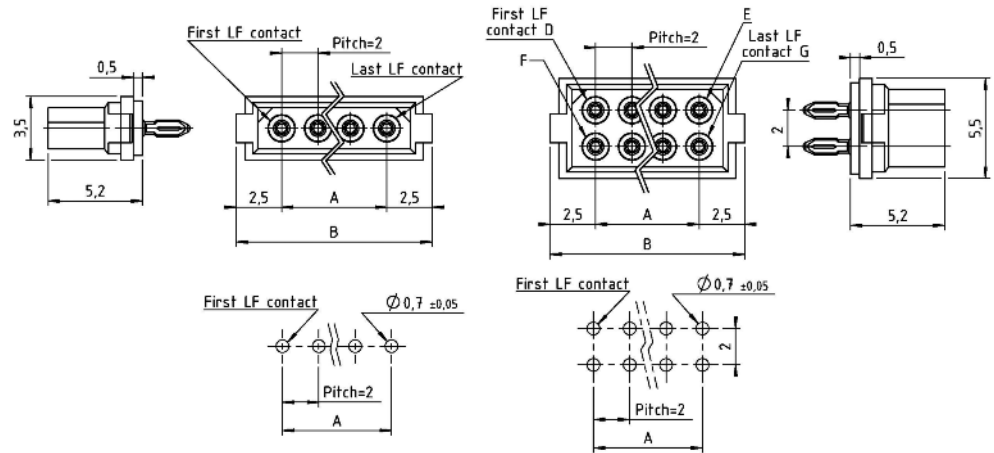
0 2 PF n n

nn = number of LF contacts

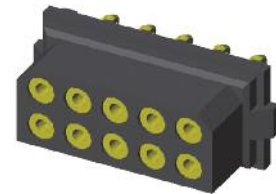
Calculation :

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° SMT

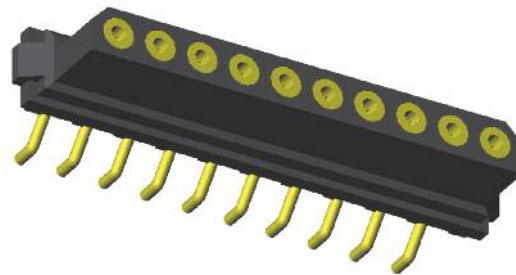
Part numbering :

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

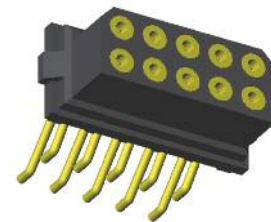
0 2 R n n

nn = number of LF contacts

Optional: Packaging in reel available upon request



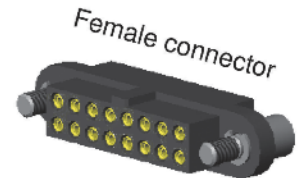
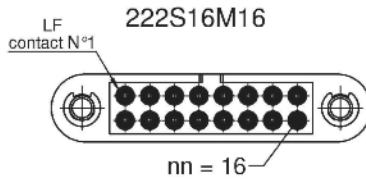
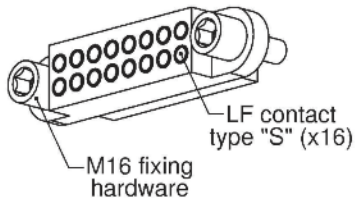
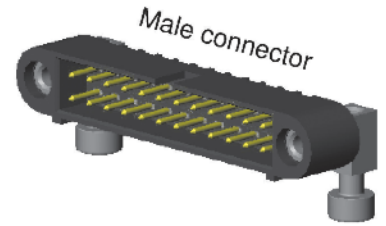
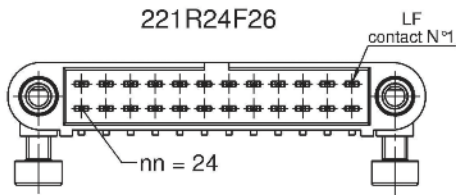
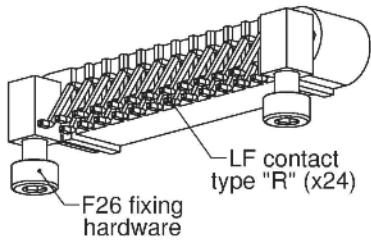
nn min = 02 nn max = 25



nn min = 04 nn max = 50

Upon request only

CMM 220 with LF contacts

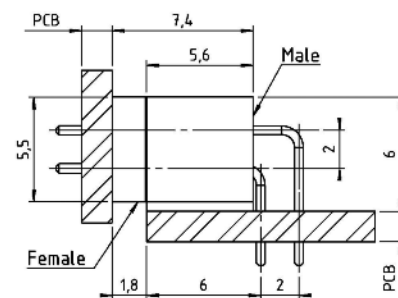
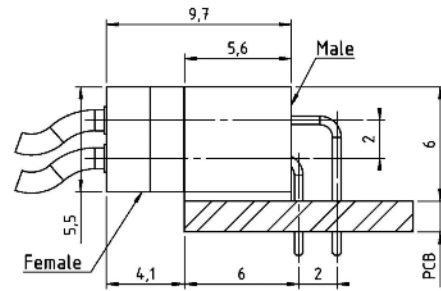
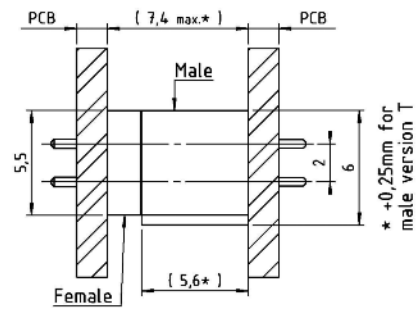
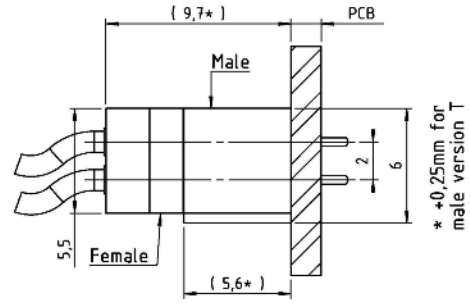
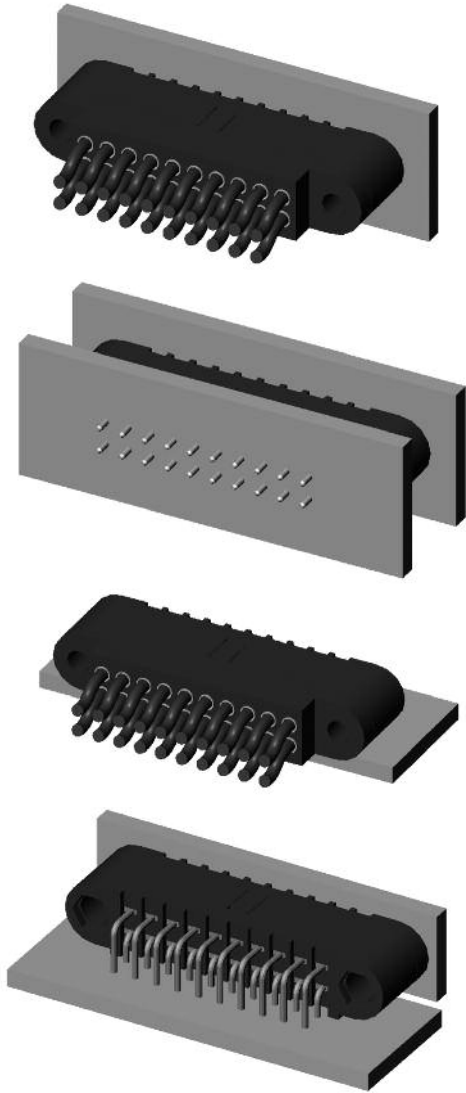


PART NUMBERING REMINDER

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
		2 female		

CMM 220 Configuration

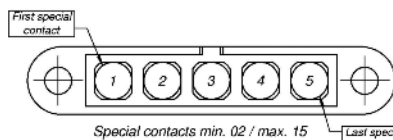
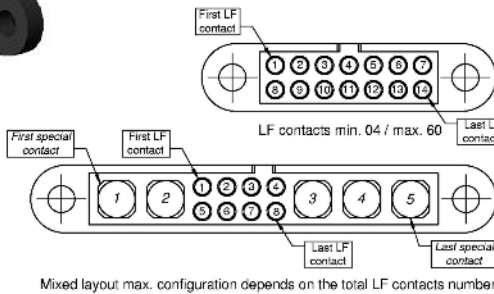
CONNECTOR SPACING



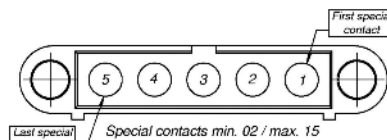
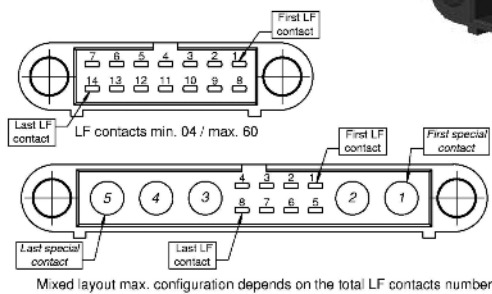
CONTACTS POSITIONS



Female connectors
(shown looking onto mating face)

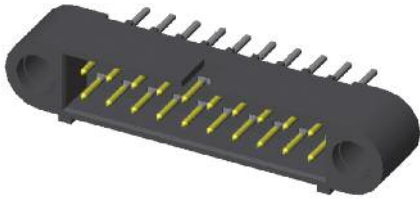


Male connectors
(shown looking onto mating face)



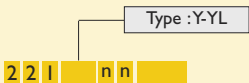
CMM 220 male

STRAIGHT PCB



nn min = 04 nn max = 60

Part numbering :



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

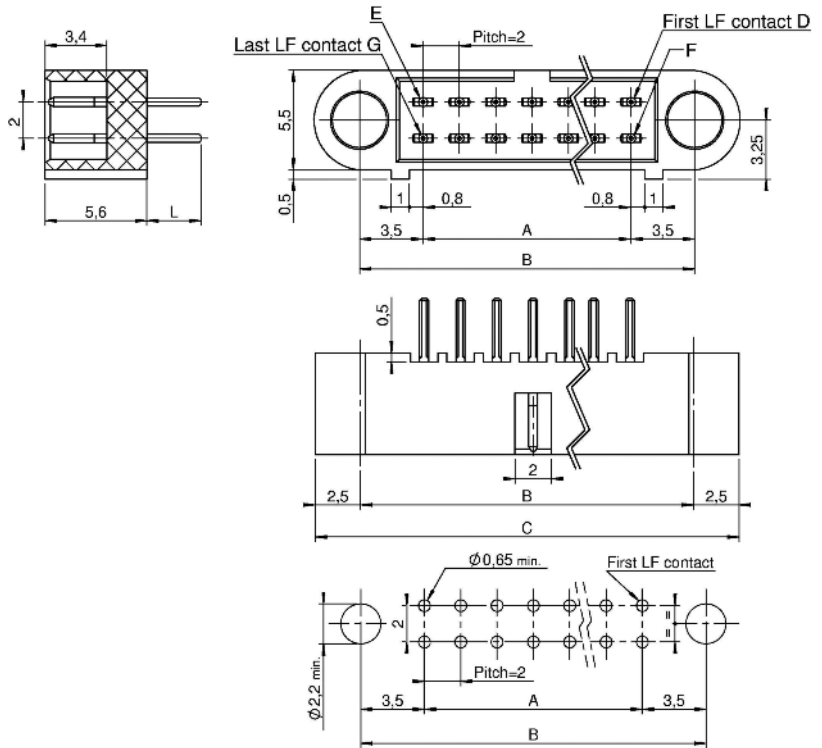
nn = number of LF contacts

Type	L
Y	3
YL	4,5

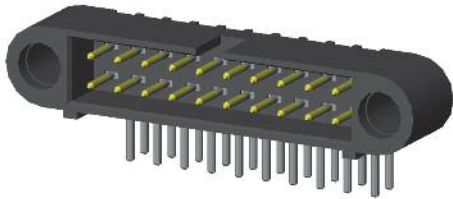
Calculation :

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

Refer to dimension table on cover page

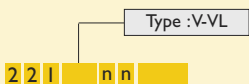


90° PCB



nn min = 04 nn max = 60

Part numbering :



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

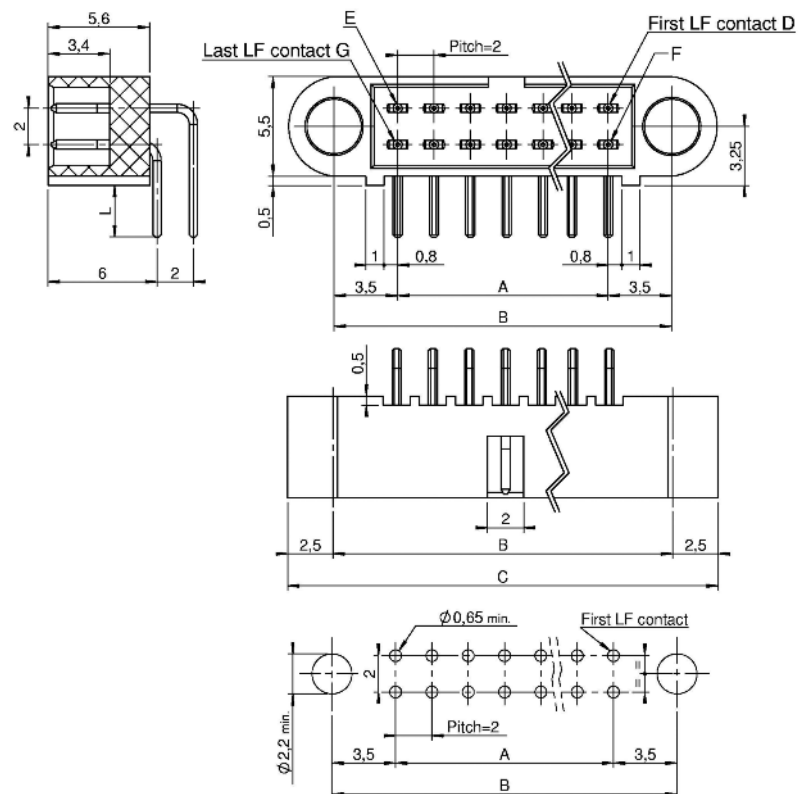
nn = number of LF contacts

Type	L
V	3
VL	4,5

Calculation :

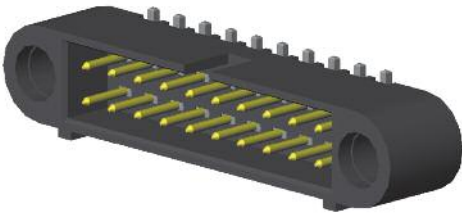
A = nn - 2
B = A + 7
C = A + 12

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

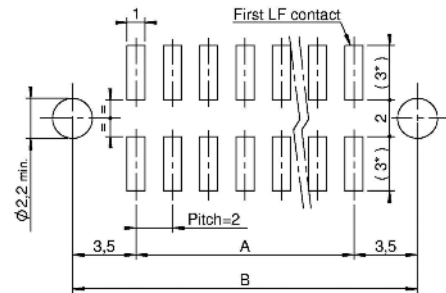
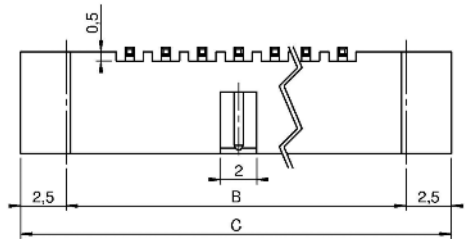
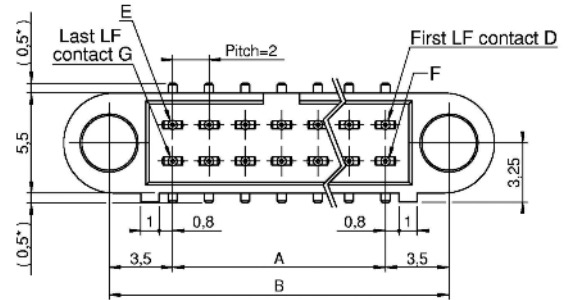
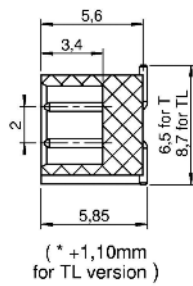
nn = number of LF contacts

Optional: Packaging in reel available upon request

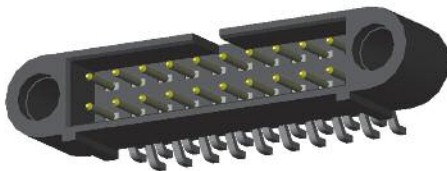
Calculation :

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

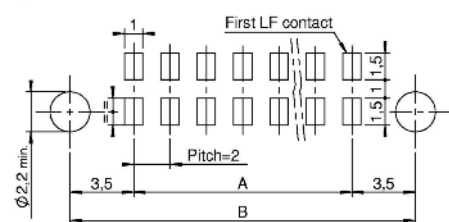
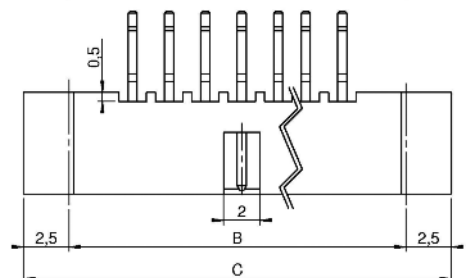
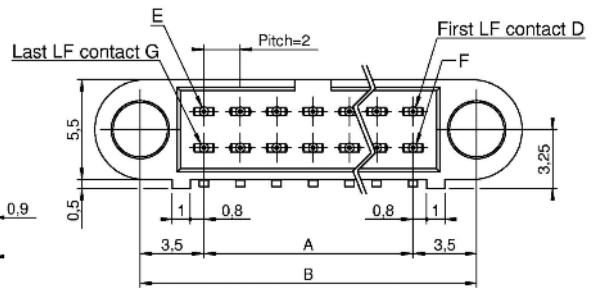
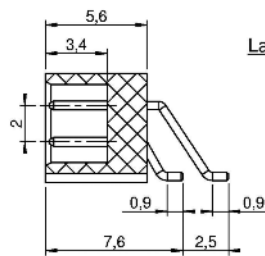
nn = number of LF contacts

Optional: Packaging in reel available upon request

Calculation :

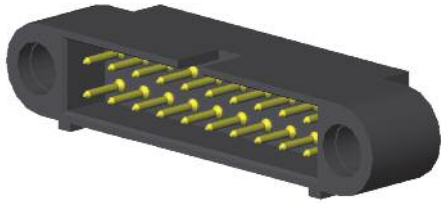
A = nn - 2
B = A + 7
C = A + 12

Refer to dimension table on cover page



CMM 220 male

CRIMP



nn min = 04 nn max = 60

Part numbering :

Type : S-C

2 2 | l | n n

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

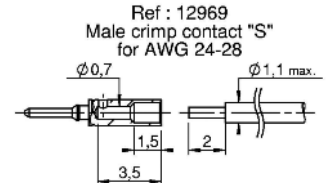
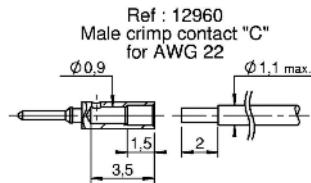
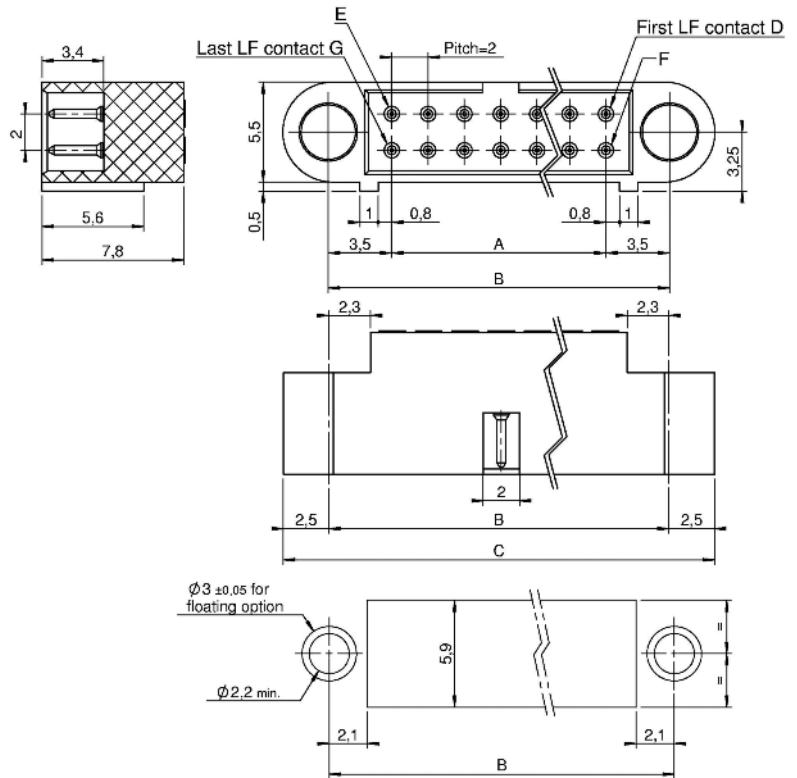
nn = number of LF contacts

Type	Gauge
S	24-28
C	22

Calculation :

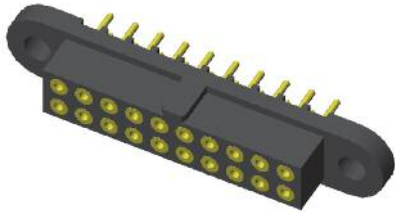
A = nn - 2
B = A + 7
C = A + 12

Refer to dimension table on cover page



CMM 220 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

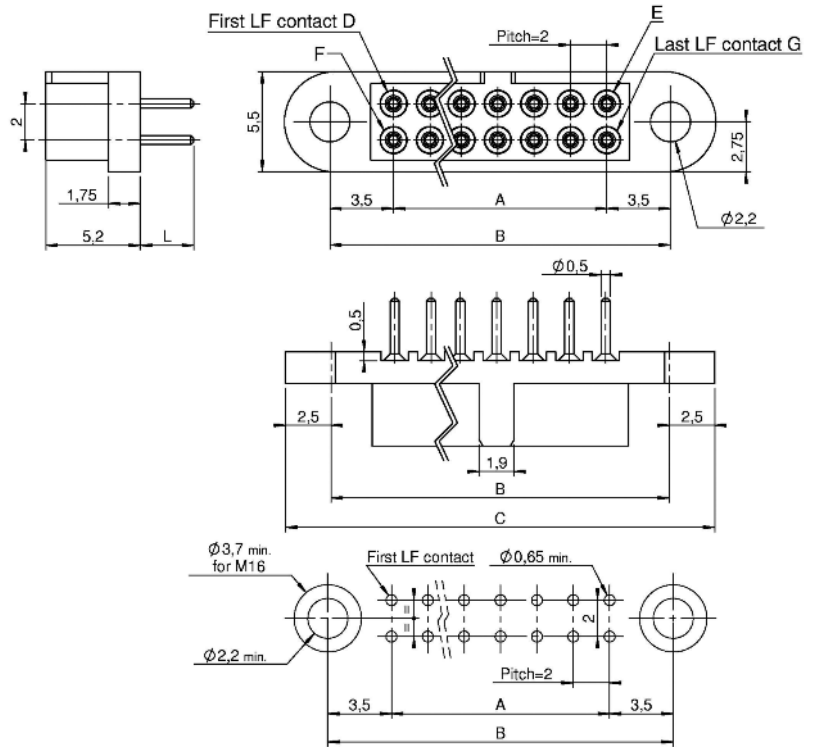
Calculation :

$A = nn - 2$

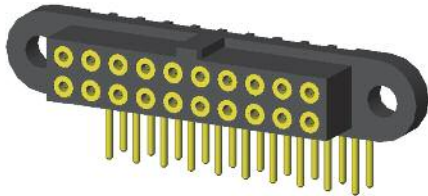
$B = A + 7$

$C = A + 12$

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

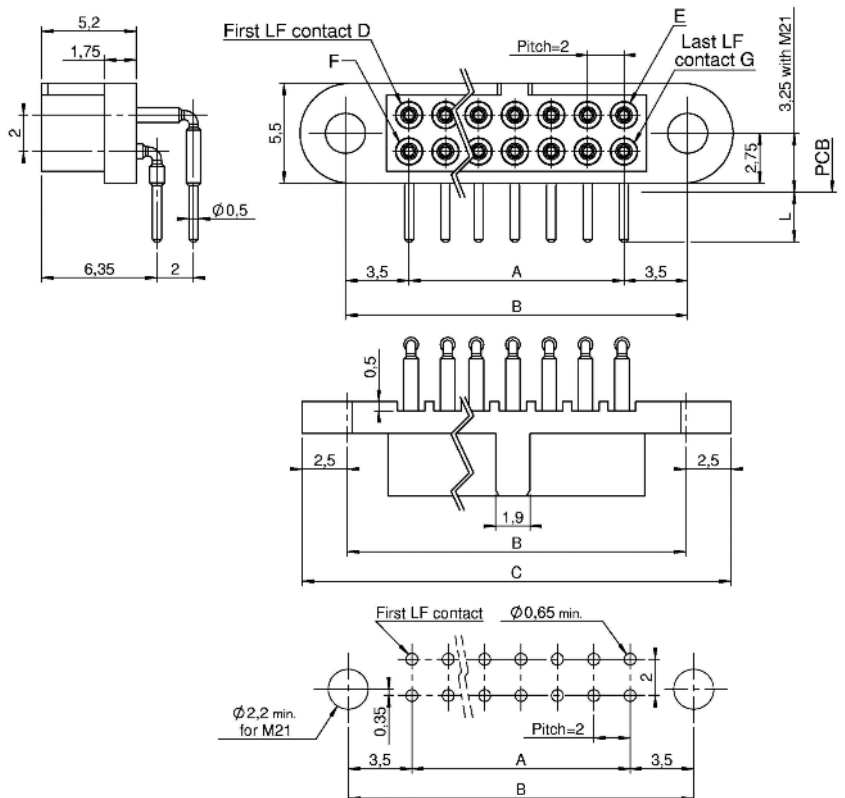
Calculation :

$A = nn - 2$

$B = A + 7$

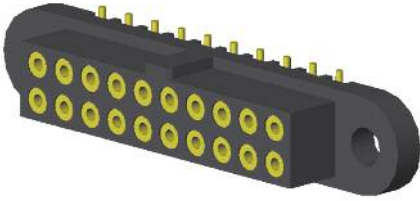
$C = A + 12$

Refer to dimension table on cover page



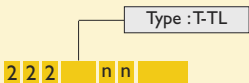
CMM 220 female

STRAIGHT SMT



nn min = 04 nn max = 60

Part numbering :



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

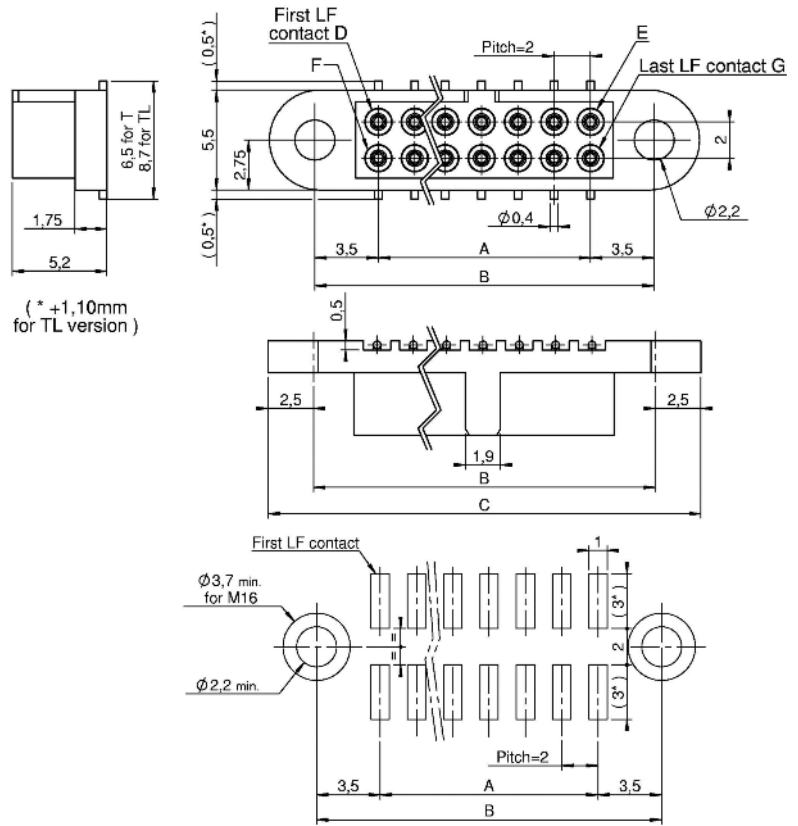
nn = number of LF contacts

Optional: Packaging in reel available upon request

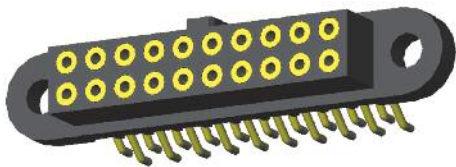
Calculation :

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 :



See Fixing on page 45
"Mxx" without fixing

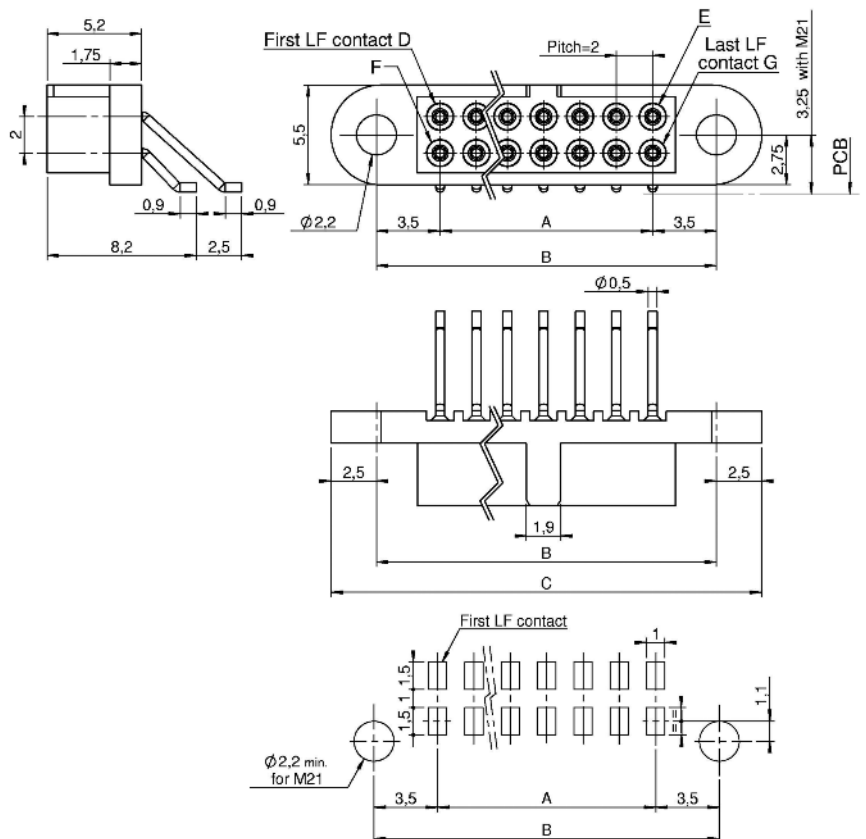
nn = number of LF contacts

Optional: Packaging in reel available upon request

Calculation :

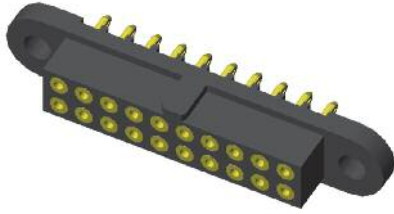
A = nn - 2
B = A + 7
C = A + 12

Refer to dimension table on cover page



CMM 220 female

STRAIGHT PRESS FIT



nn min = 04 nn max = 60

Part numbering :

2 2 2 PF n n

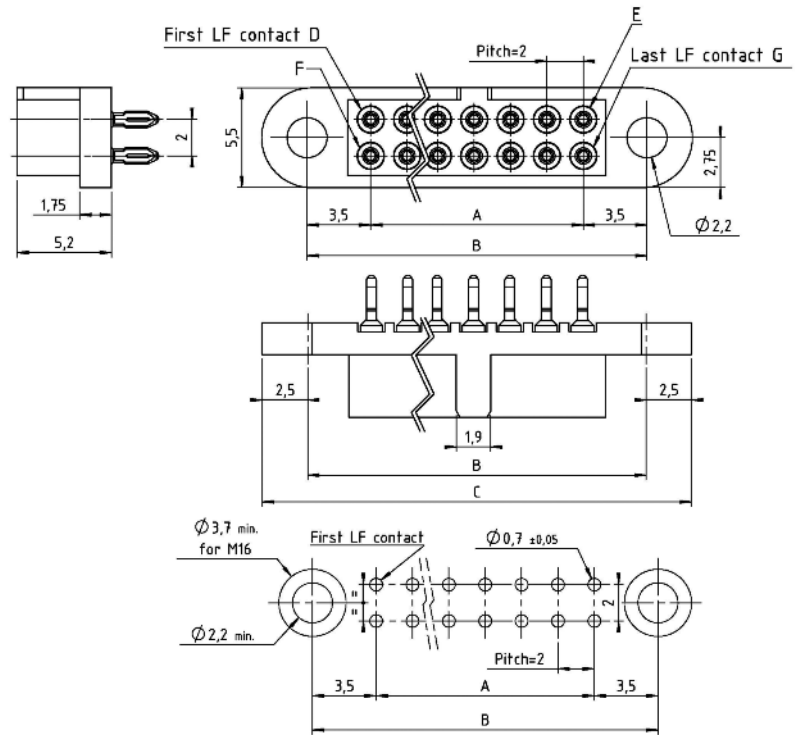
See Fixing on page 45-46
"Mxx" without fixing

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 :

2 2 2 n n

Type : S-C

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

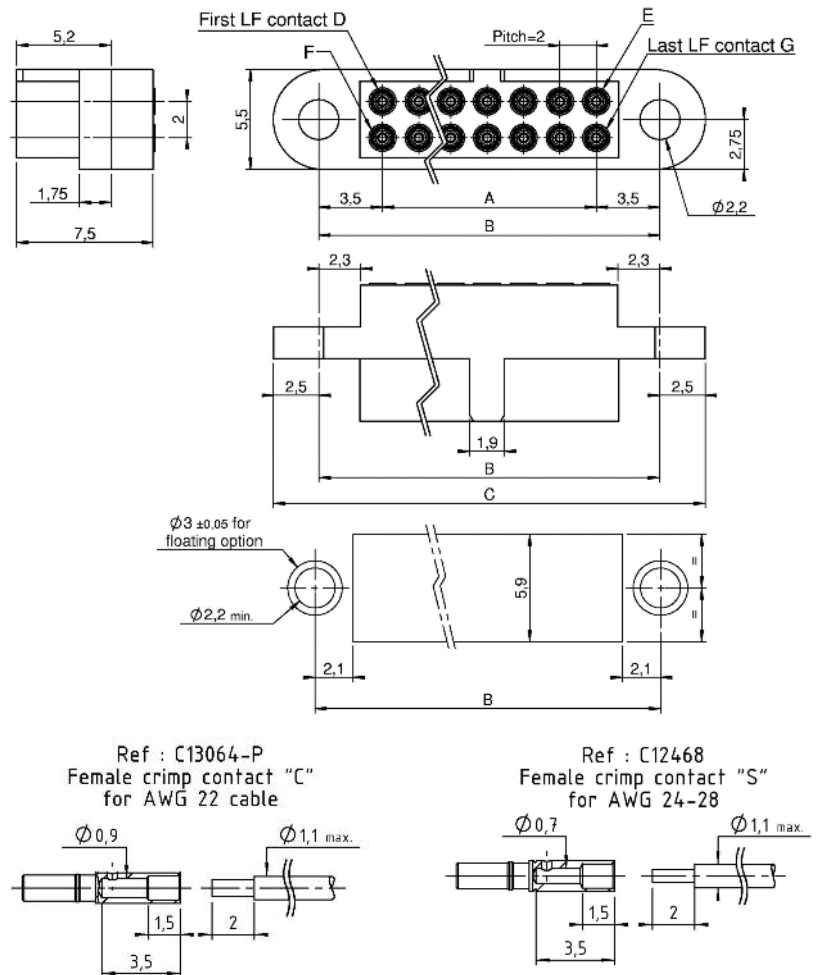
nn = number of LF contacts

Type	Gauge
S	24-28
C	22

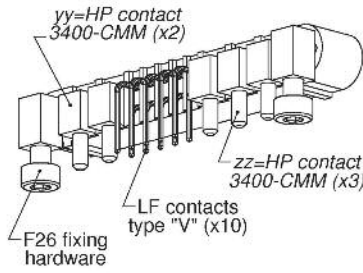
Calculation :

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

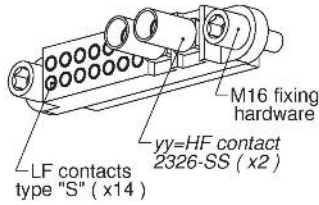
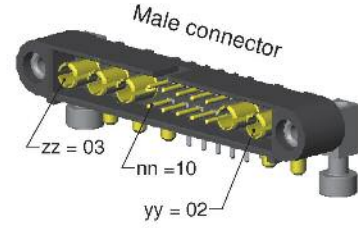
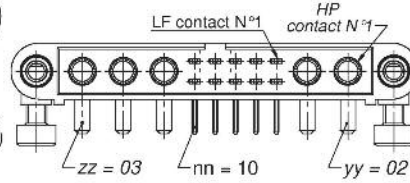
Refer to dimension table on cover page



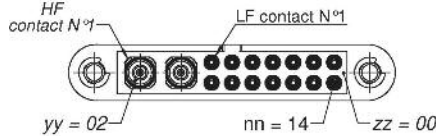
CMM 220 mixed-layout



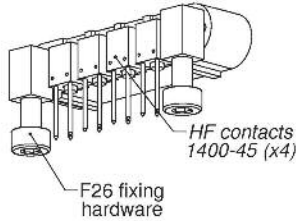
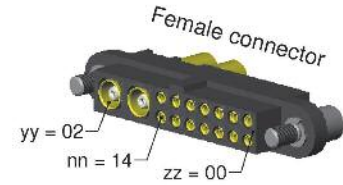
221V10F26-0203-3400CMM



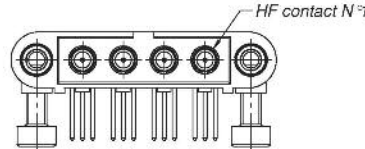
222S14M16-0200-2326SS



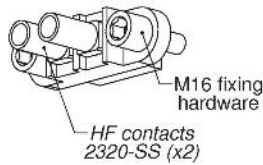
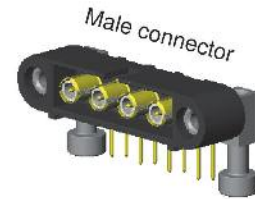
(HF contacts are supplied -not fitted- under P/N 30-2326-SS)



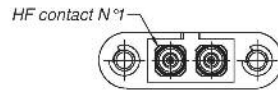
221D00F26-0004-140045



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

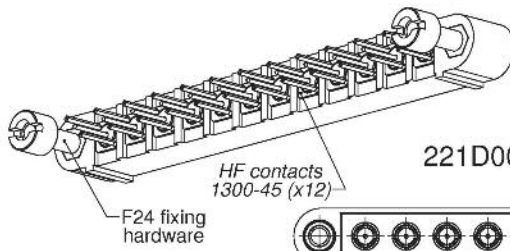


222E00M16-0002-2320SS

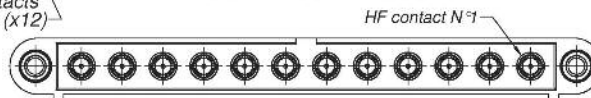


(HF contacts are supplied -not fitted- under P/N 30-2320-SS)

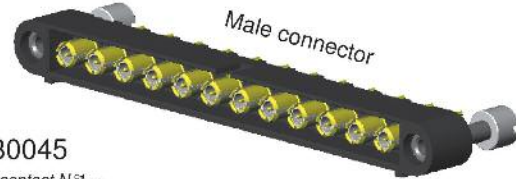
"E" stated in P/N for connectors on cable with only special contacts.



221D00F24-0012-130045



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



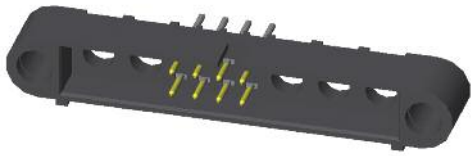
PART NUMBERING REMINDER

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 I)	Number of HF/HP contacts opposite to LF contact number I	HF/HP Contact Type
22	1 male 2 female	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	

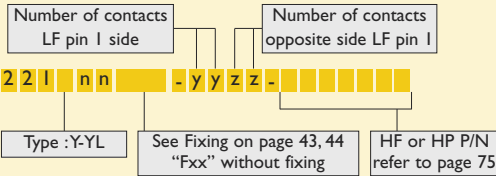
CMM 220

Male mixed-layout

STRAIGHT PCB



Part numbering :

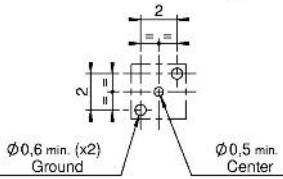


nn = number of LF contacts

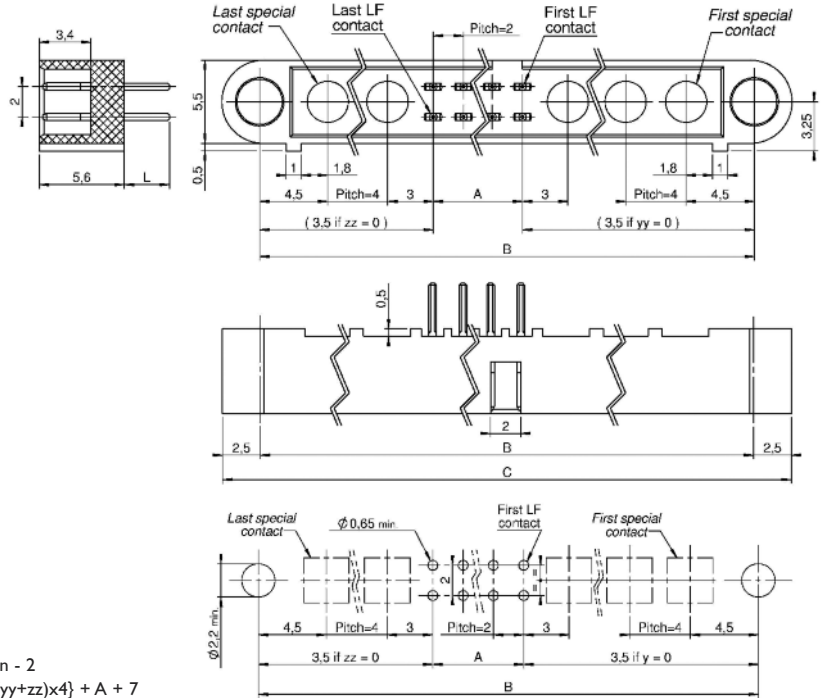
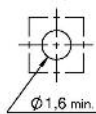
Type	L
Y	3
YL	4,5

Pattern for special contact :

HF 30-1300-xx PCB lay-out



HP 30-3300-xx PCB lay-out

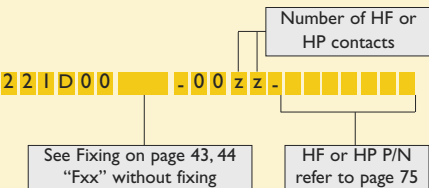


$A = nn - 2$
 $B = \{(yy+zz) \times 4\} + A + 7$
 $B_{max.} = 65 \text{ mm}$
 $C = B + 5$

STRAIGHT PCB FOR HP/HF CONTACTS ONLY

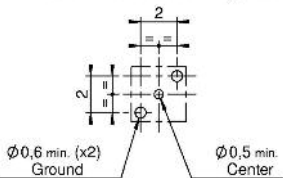


Part numbering :

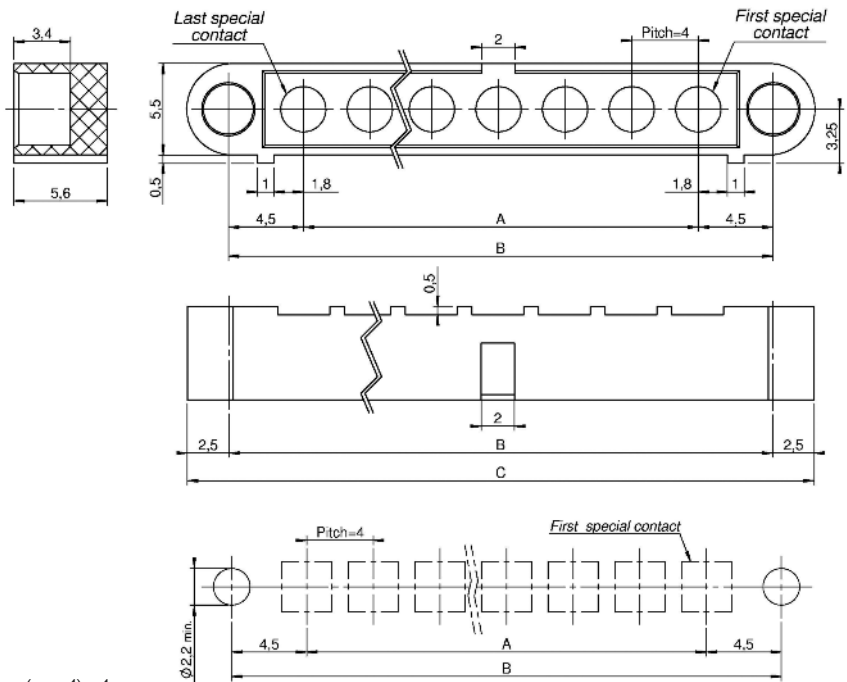
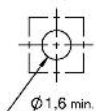


Pattern for special contact :

HF 30-1300-xx PCB lay-out



HP 30-3300-xx PCB lay-out



$A = (zz \times 4) - 4$
 $B = A + 9$
 $C = B + 5$

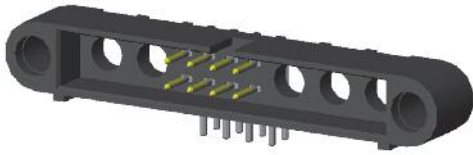
Special contacts min. : 02
max. : 15

Refer to dimension table on cover page

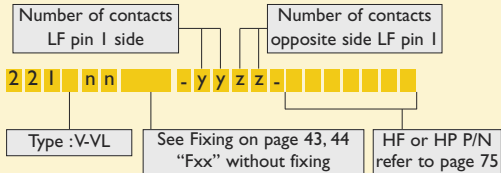
CMM 220

Male mixed-layout

90° PCB



Part numbering :

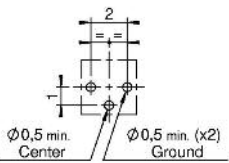


nn = number of LF contacts

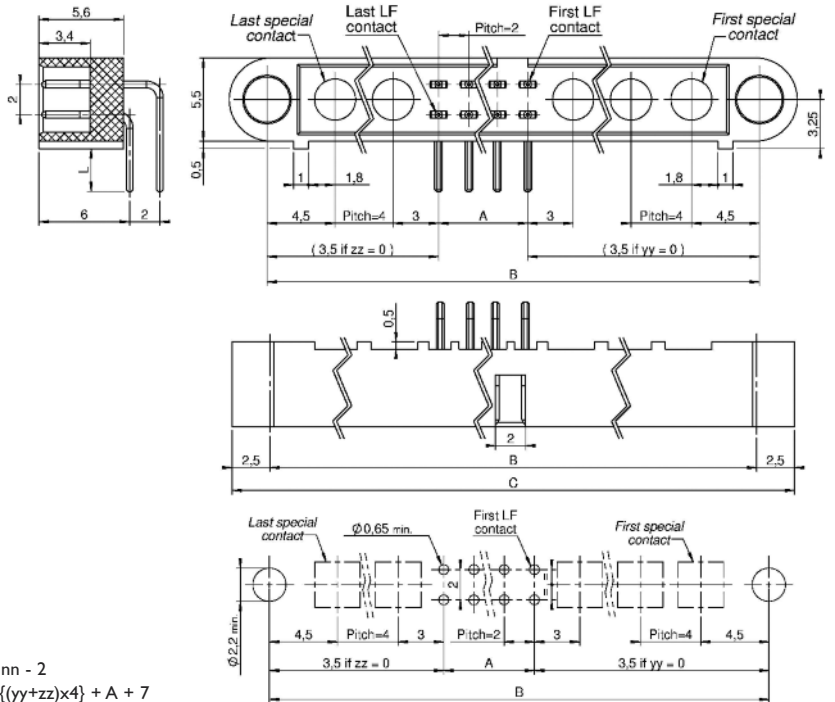
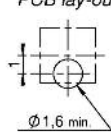
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 30-1400-xx PCB lay-out



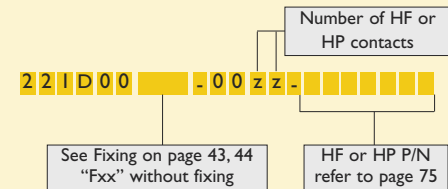
HP 30-3400-xx PCB lay-out



90° PCB FOR HP/HF CONTACTS ONLY

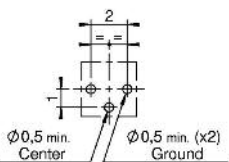


Part numbering :

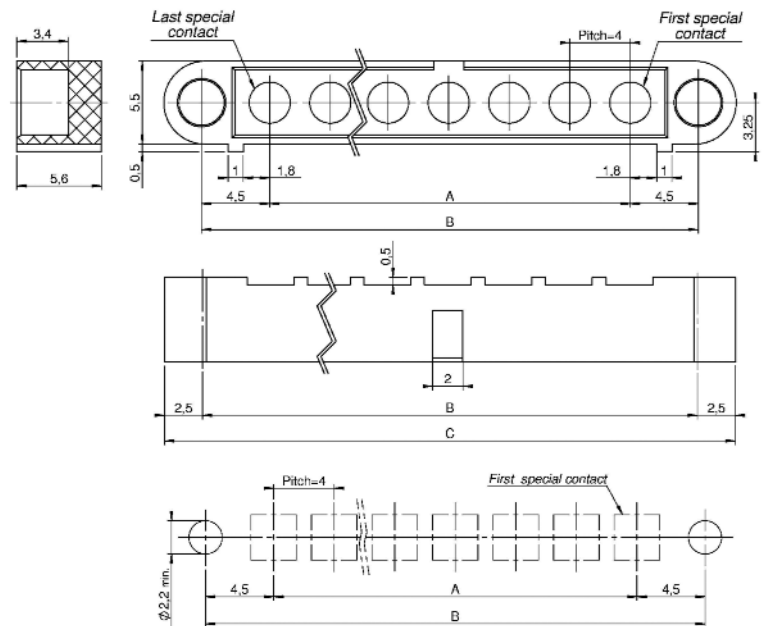
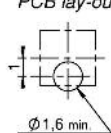


Pattern for special contact :

HF 30-1400-xx PCB lay-out



HP 30-3400-xx PCB lay-out



A = (zz x 4) - 4
B = A + 9
C = B + 5

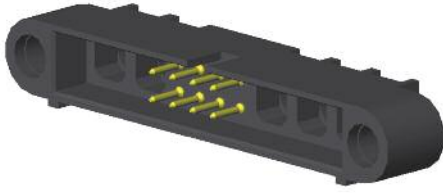
Special contacts min. : 02
max. : 15

Refer to sizes information table on cover page

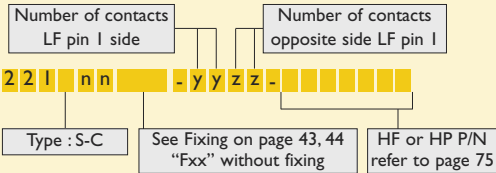
CMM 220

Male mixed-layout

CRIMP

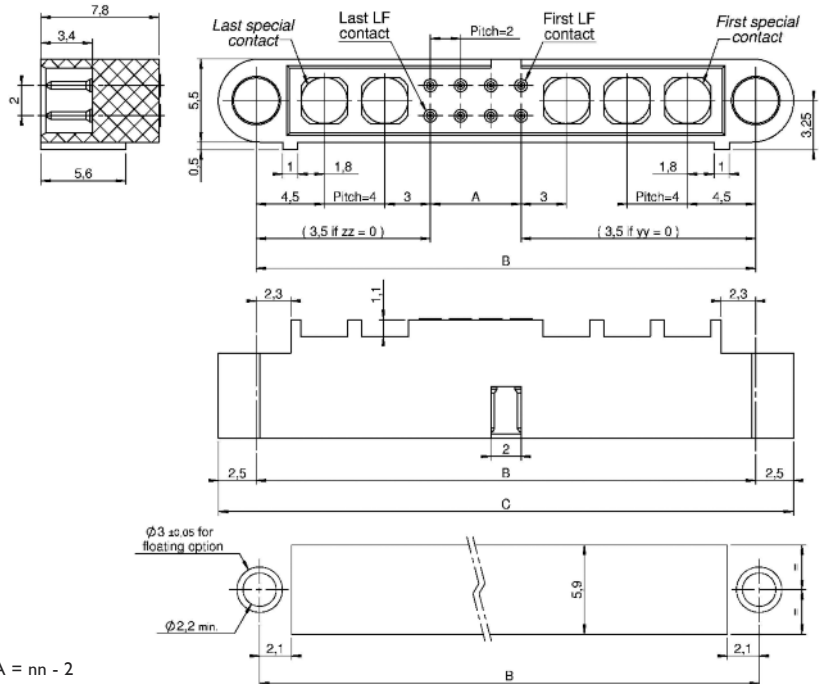
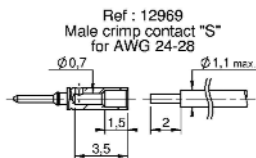
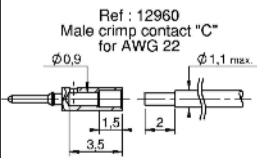


Part numbering :



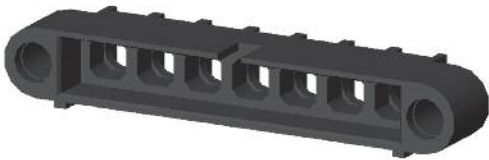
nn = number of LF contacts

Type	Gauge
S	24-28
C	22

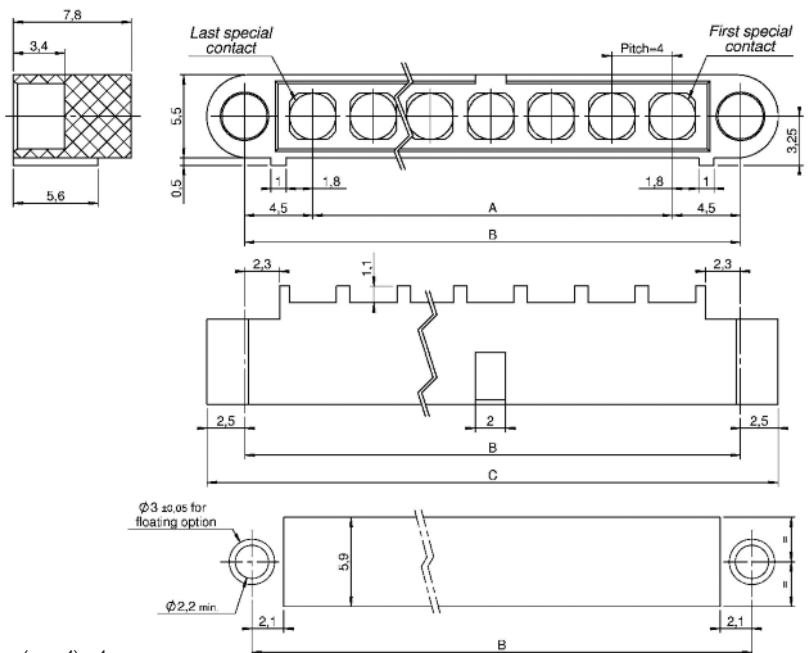
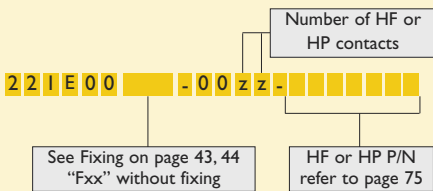


$A = nn - 2$
 $B = \{(yy+zz) \times 4\} + A + 7$
 $B_{max} = 65 \text{ mm}$
 $C = B + 5$

CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



$A = (zz \times 4) - 4$
 $B = A + 9$
 $C = B + 5$

Special contacts min. : 02
max. : 15

Refer to dimension table on cover page

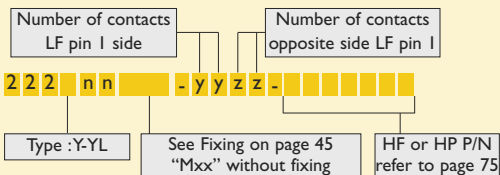
CMM 220

Female mixed-layout

STRAIGHT PCB



Part numbering :

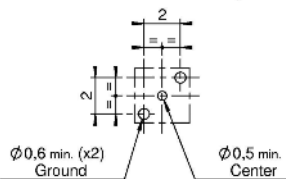


nn = number of LF contacts

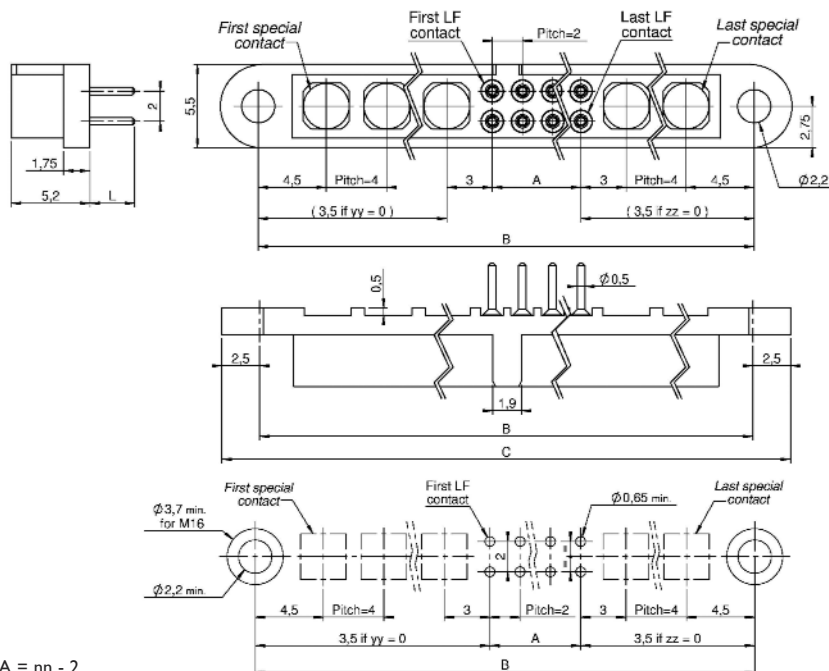
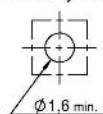
Type	L
Y	3
YL	4,5

Pattern for special contact :

HF 30-2300-xx PCB lay-out



HP 30-4300-xx PCB lay-out



$$A = nn - 2$$

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

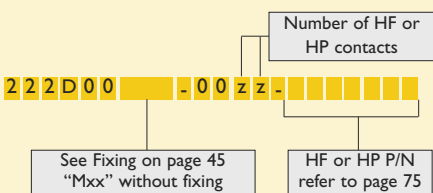
$$B_{max} = 65 \text{ mm}$$

$$C = B + 5$$

STRAIGHT PCB FOR HP/HF CONTACTS ONLY

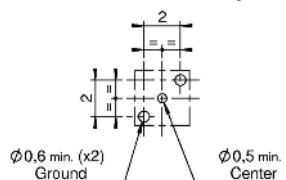


Part numbering :

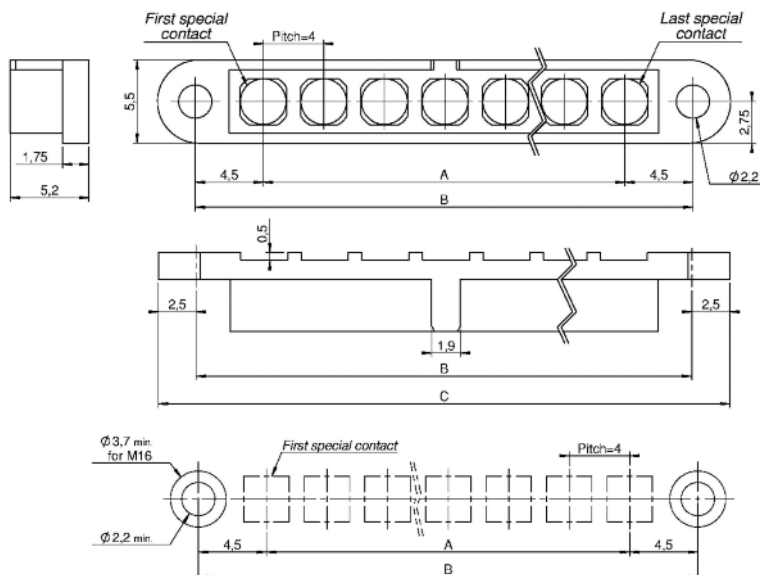
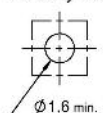


Pattern for special contact :

HF 30-2300-xx PCB lay-out



HP 30-4300-xx PCB lay-out



Special contacts min.: 02
max.: 15

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

$$B = A + 9$$

$$C = B + 5$$

Refer to dimension table on cover page

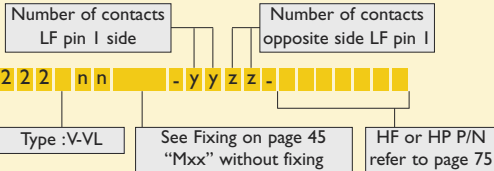
CMM 220

Female mixed-layout

90° PCB



Part numbering :

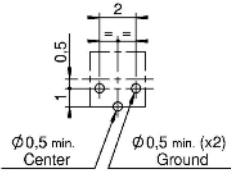


nn = number of LF contacts

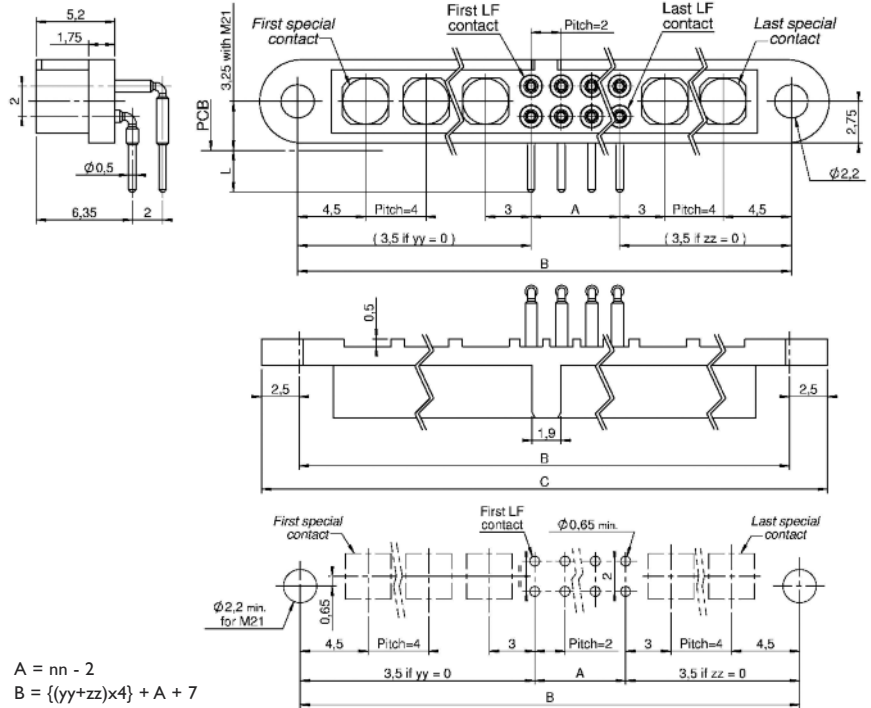
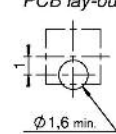
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 30-2400-xx PCB lay-out



HP 30-4400-xx PCB lay-out

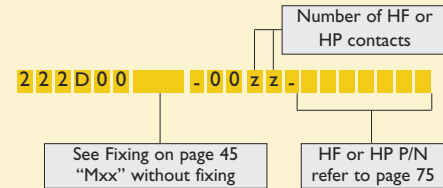


$A = nn - 2$
 $B = \{(yy+zz) \times 4\} + A + 7$
 $B_{max} = 65 \text{ mm}$
 $C = B + 5$

90° PCB FOR HP/HF CONTACTS ONLY

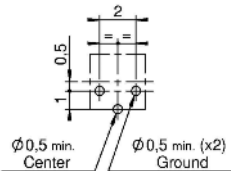


Part numbering :

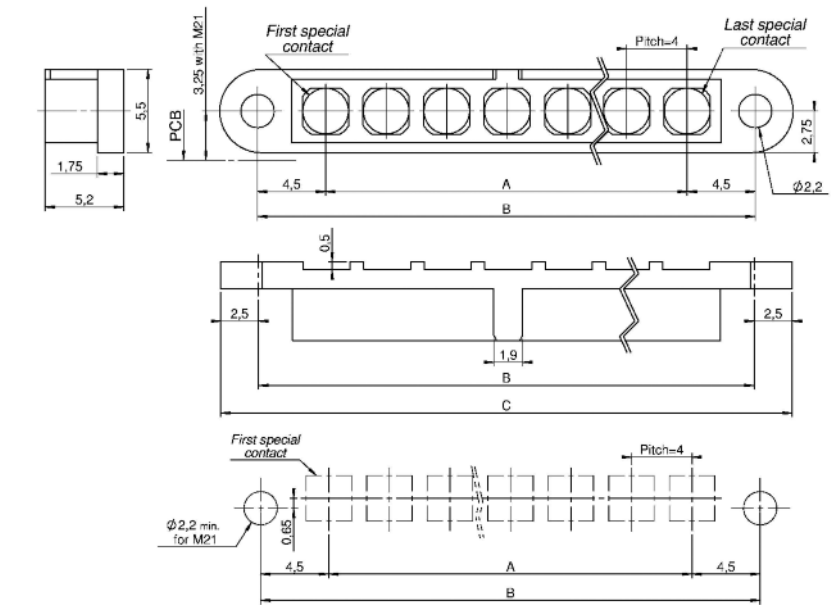
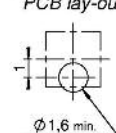


Pattern for special contact :

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

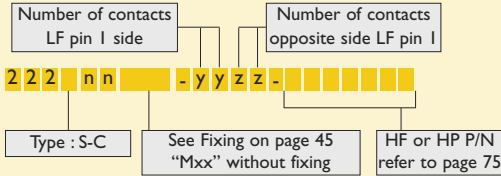
CMM 220

Female mixed-layout

CRIMP

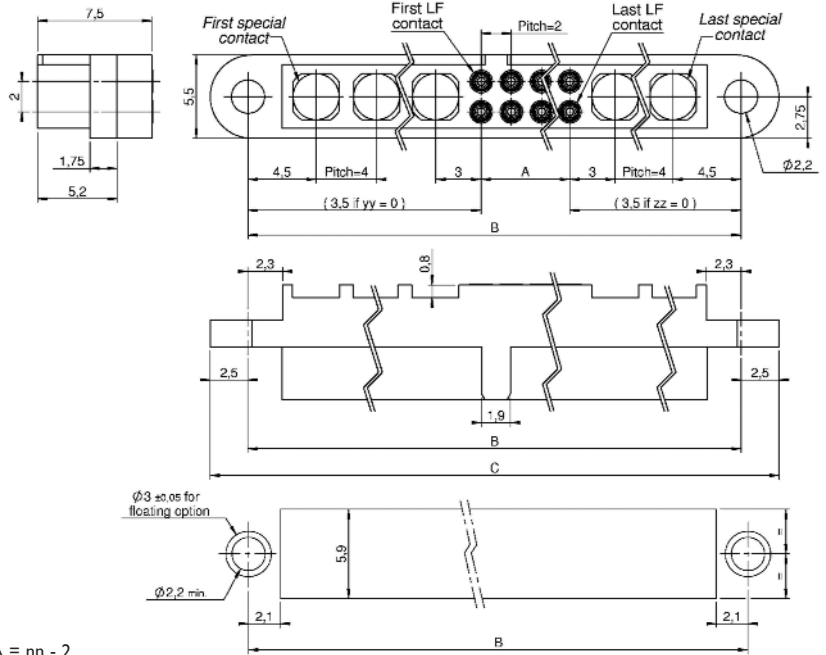
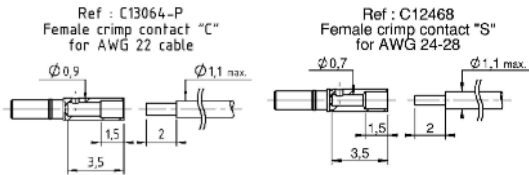


Part numbering :



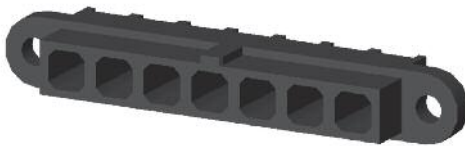
nn = number of LF contacts

Type	Gauge
S	24-28
C	22

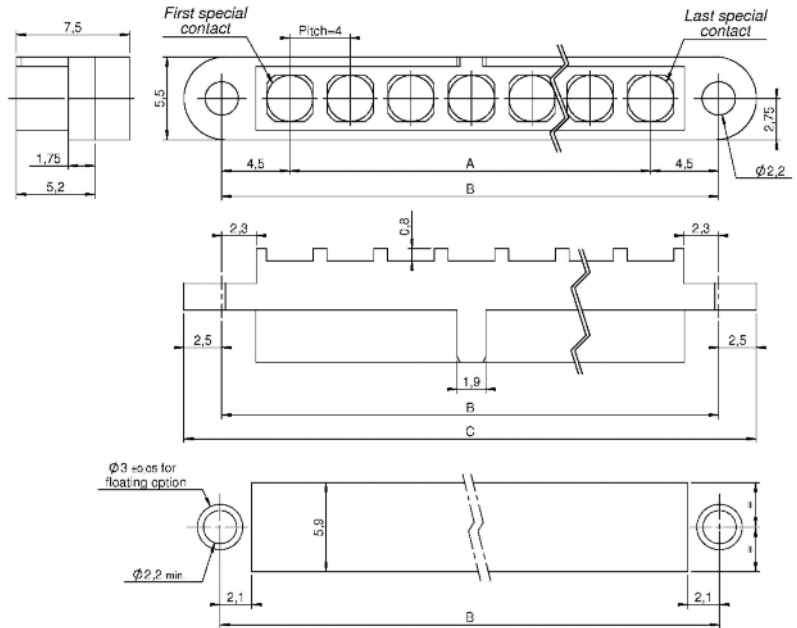
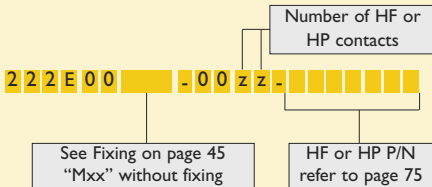


$A = nn - 2$
 $B = ((yy+zz) \times 4) + A + 7$
 $B_{max} = 65 \text{ mm}$
 $C = B + 5$

CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



$A = (zz \times 4) - 4$
 $B = A + 9$
 $C = B + 5$

Special contacts min. : 02
max. : 15

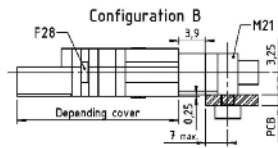
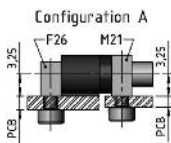
Refer to dimension table on cover page

Fixing hardware interconnection table for CMM 220

MALE CONNECTORS CMM SERIES 220

Type of contact in connector	PCB Contacts																																				
	Type of PCB mount	Straight													90°											Card edge only HF			Card edge LF & LF			No fixing on PCB			Racking		
		PCB thickness (mm)	0,8 min. 2 max.	1,5 min. 4 max.	6 max.	4 max.	2,5 max.	4,5 max.	1,6 max.	3,2 max.	F27	F34	F21	F60	F61	F62	F62H	F22	F24	F24L	F25	F26	F30H	F31	F31H	F63	F63L	F2xx	F21	F60	F61	F62	F28				
Housing assembly	Smooth	Straight	0,8 min. 2 max.	M12	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK			
			M12H	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK			
			M12L	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK			
		Straight	1,5 min. 4 max.	M12LH	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK			
			M49																																		
			M49H																																		
	Locked	Straight	1,5 min. 2,5 max.	M46													OK	OK																			
			M46H														OK	OK																			
			M47														OK	OK																			
		90°	1,5 min. 4 max.	M47H													OK	OK																			
			M21														OK	OK																			
			M21L	OK	OK	OK		A	A	A							OK	OK	OK											OK	OK			B			
Without	90°	1,6	M48																																		
		2	M48M																																		
		3,2	M48L																																		
	Without	M16	OK	OK	OK		OK	OK	OK																												
		M11	OK	OK	OK		OK	OK	OK						OK	OK	OK											OK	OK								
		M11	OK	OK	OK		OK	OK	OK						OK	OK	OK											OK	OK								
Contacts on cable	Smooth	Straight	0,8 min. 2 max.	M12	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK					
			M12L	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK				
			M49																																		
		Floating	M1xx	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK				
			Straight	1,5 min. 2,5 max.	M46												OK	OK																			
				M47													OK	OK																			
	Locked	90°		1,6	M21	OK	OK	OK		A	A	A																									
			3,2	M21L	OK	OK	OK		A	A	A					OK	OK	OK																			
			1,6	M48																																	
		Without	2	M48M																																	
			3,2	M48L																																	
			M16	OK	OK	OK		OK	OK	OK						OK	OK	OK																			
With cover	M11	OK	OK	OK		OK	OK	OK					OK	OK	OK																						
	M18	OK	OK	OK		B	B	B					OK	OK	OK																						

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



Recommended Torque : 0,2 N/m
Except 0,4 N/m for M46/M47



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)

Fixing for CMM 220 male

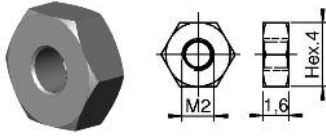
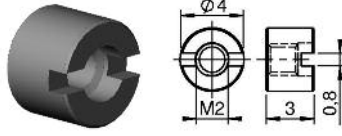
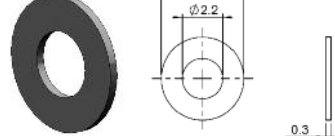
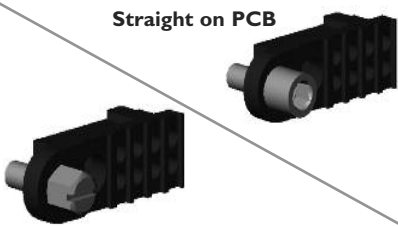
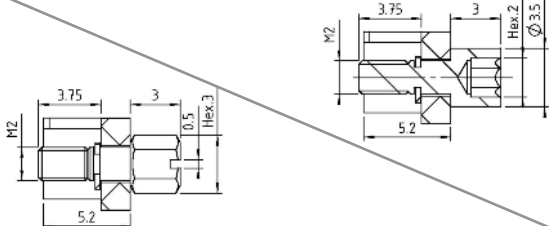

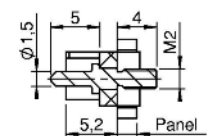

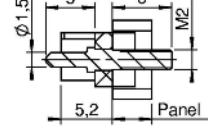

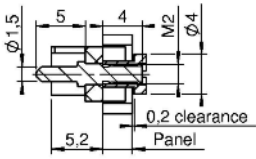
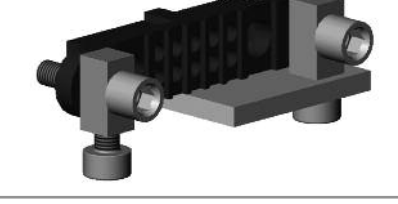
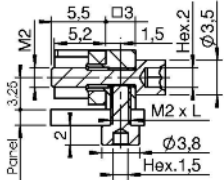

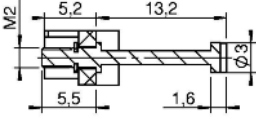
FIXING HARDWARE FOR CMM 220 MALE

REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
F21	Straight on PCB 		F21 : CMM male : Y-YL-TS-C (D-E : straight)
F22	Straight on PCB 0,8 min / 2 max 		F22 : CMM male : Y-TS-C (D-E : straight) F22H : CMM male : Y-T (D : straight)
F22H			
F24	Straight on PCB 1,5 min / 4 max 		F24 : CMM male : YL-TS-C (D-E : straight) F24H : CMM male : YL-T (D : straight)
F24H			
F24L	Straight on PCB 6 max 		F24L : CMM male : T-TL (D-E : straight)
F2xx xx = (PCB thickness + 0,2 mm) x 10 Example : for 3 mm PCB, the reference is F232 (3 + 0,2) x 10 = 32 xx = 32	Straight on PCB with floating option 		F2xx : CMM male : S-C (E : straight)
F25	90° on PCB 		F25 : CMM male : V-VL-R-S-C-E (D : 90°)
F26	90° on PCB 		F26/F23 : CMM male : V-VL-R-S-C-E (D : 90°)
F23			
F30	90° on PCB 2,5 max. 		F30 & F30H : CMM male : V-R-C-S-E (D : 90°)
F30H			
F31	90° on PCB 4,5 max. 		F31 & F31H : CMM male : VL-R-C-S-E (D : 90°)
F31H			

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

Fixing for CMM 220 female

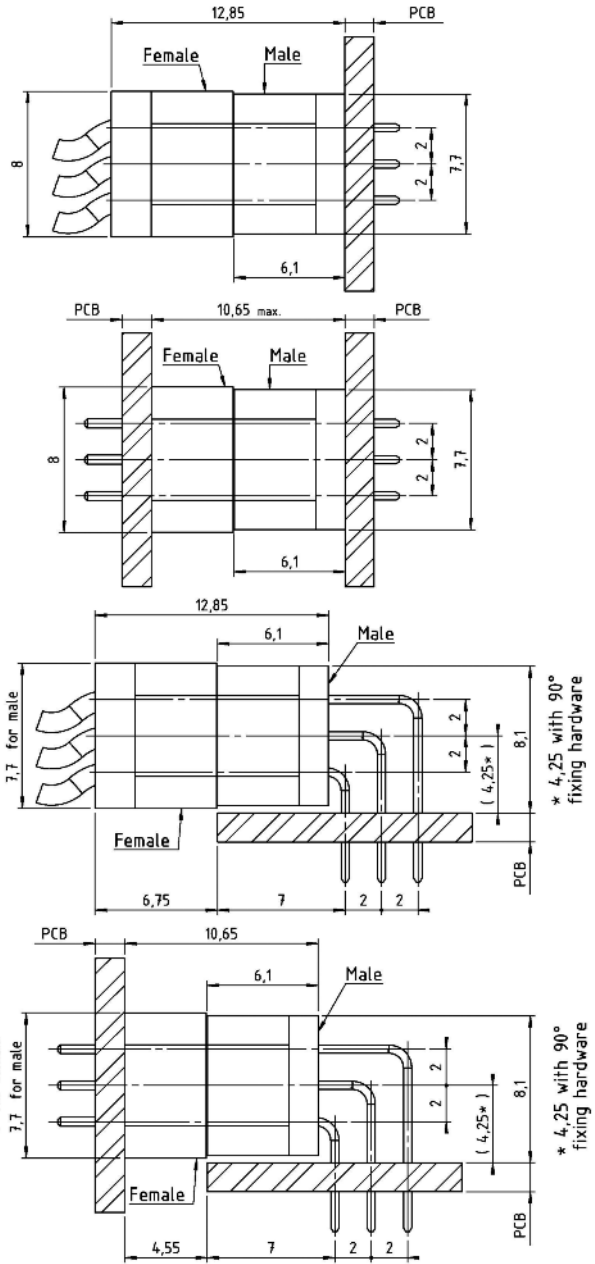
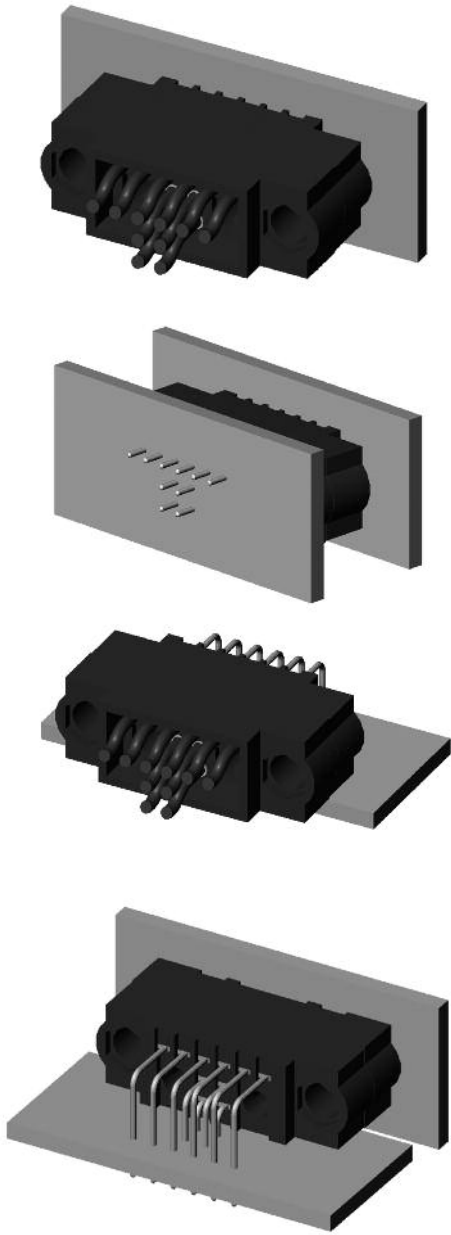
FIXING HARDWARE FOR CMM 220 FEMALE

HEXAGONAL NUT		STANDARD NUT		"W" CODE FOR ADDITIONAL WASHER	
					
REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS		RECOMMENDATION	
M16 M11	Straight on PCB 			M16/M11 : CMM Female : Y-YL-TS-C-E (D : straight)	
M12 M12H	Straight on PCB 0,8 min / 2 max 			M12 : CMM female : Y-TS-C (D-E : straight) M12H : CMM female : Y-T (D : straight)	
M12L M12LH	Straight on PCB 1,5 min / 4 max 			M12L : CMM female : Y-TS-C (D-E : straight) M12LH : CMM female : YL-T (D : straight)	
M1xx xx = (PCB thickness + 0,2 mm) x 10 Example : for 3 mm PCB, the reference is M132 (3 + 0,2) x 10 = 32 xx = 32	Straight on PCB with floating option 			M1xx : CMM female : S-C (E : straight)	
M21 for PCB 1,6 mm (L = 4 mm)	90° on PCB 			M21 : CMM Female : V-R-S-C-E (D : 90°)	
M21L for PCB 3,2 mm (L = 5 mm)				M21L : CMM Female : VL-R-S-C-E (D : 90°)	
M18	Cover option 			M18 : CMM female : S-C (E : straight)	

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

CMM 320 Configuration

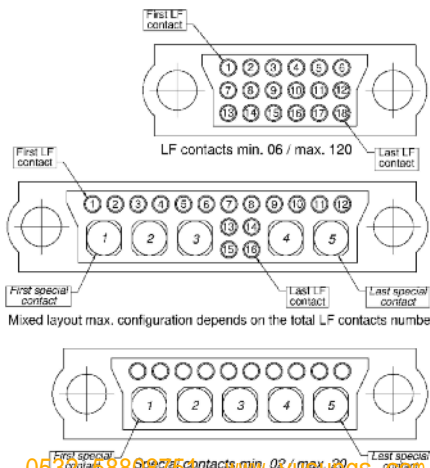
CONNECTOR SPACING



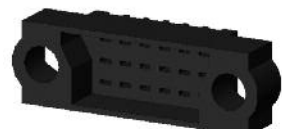
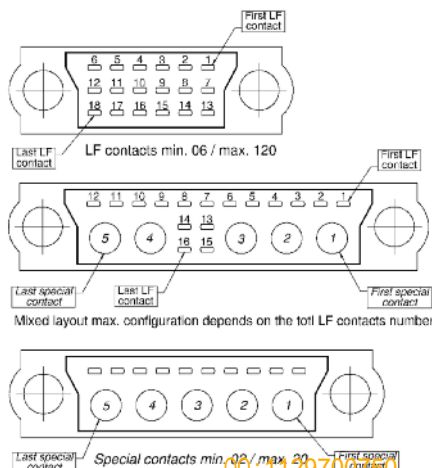
CONTACTS POSITIONS



Female connectors
(shown looking onto mating face)

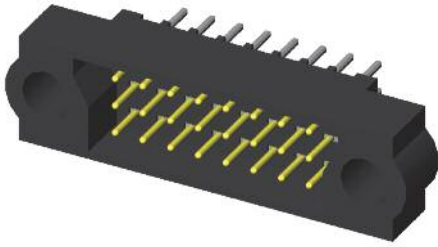


Male connectors
(shown looking onto mating face)



CMM 320 Male

STRAIGHT PCB FOR LF CONTACTS ONLY



Part numbering :

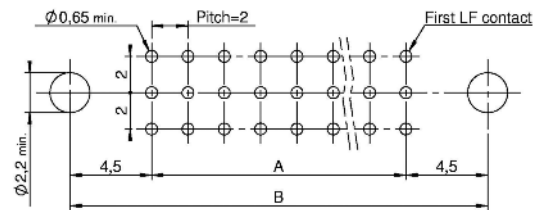
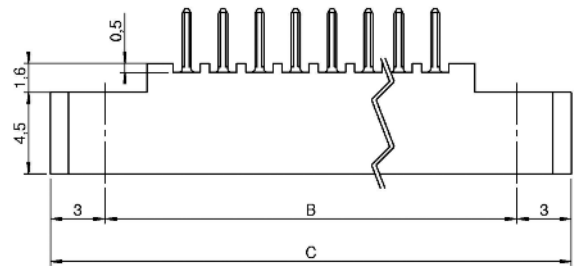
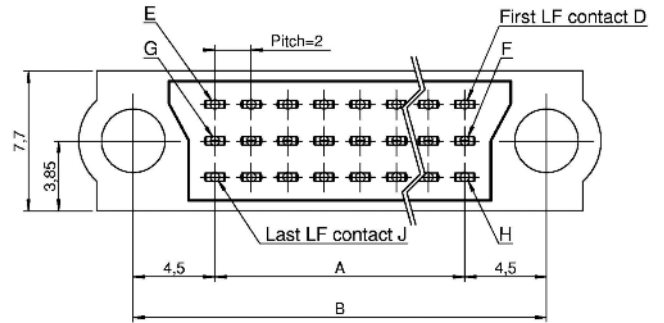
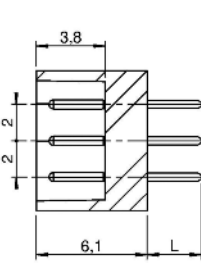
Type : Y-YL

3 2 | 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



nnn min = 006
nnn max = 120

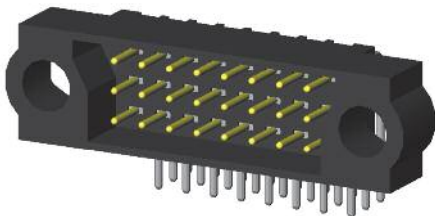
$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

90° PCB FOR LF CONTACTS ONLY



Part numbering :

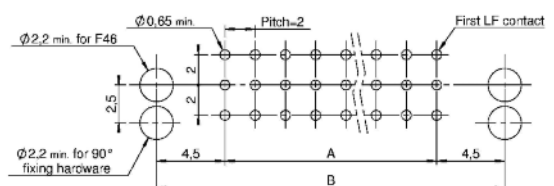
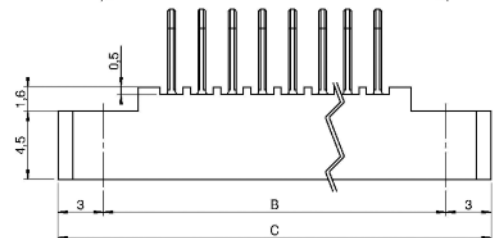
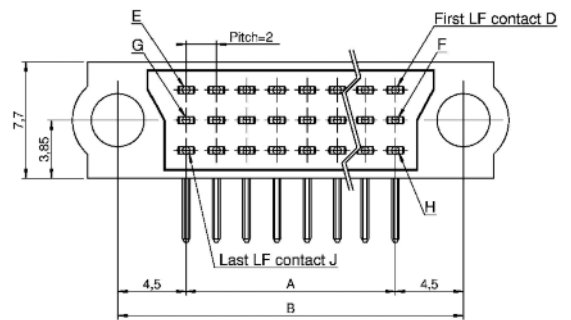
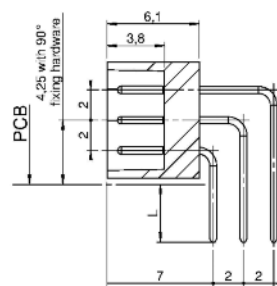
Type : V-VL

3 2 | 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



nnn min = 006
nnn max = 120

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

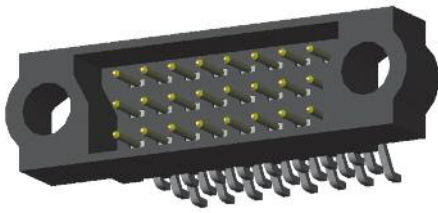
$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table
on cover page

CMM 320 Male

90° SMT FOR LF CONTACTS ONLY



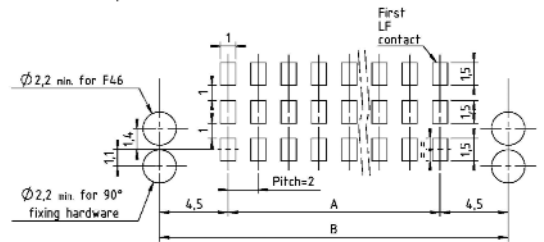
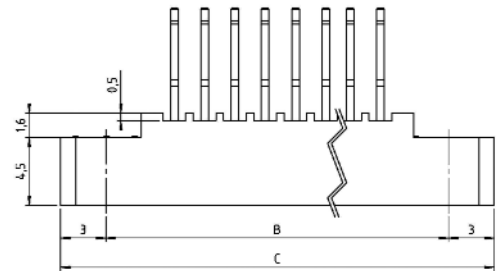
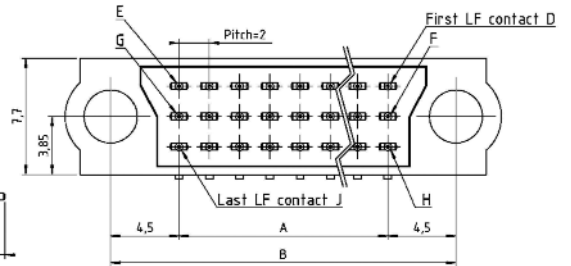
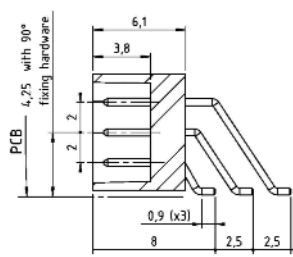
Part numbering :

3 2 | 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

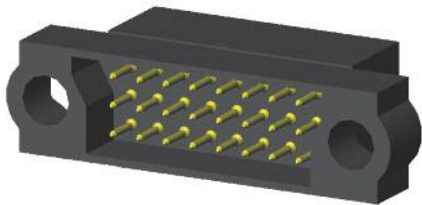
$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table on cover page

CRIMP FOR LF CONTACTS ONLY



Part numbering :

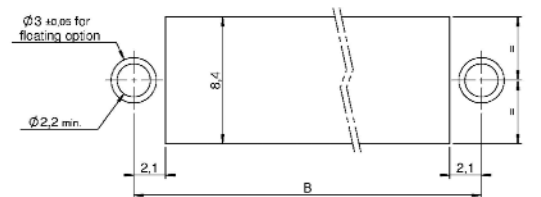
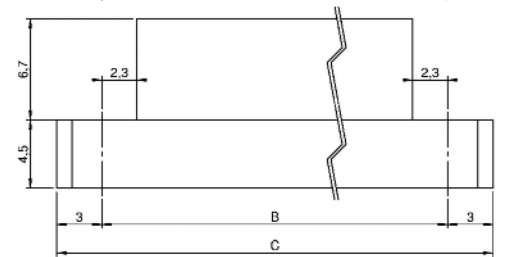
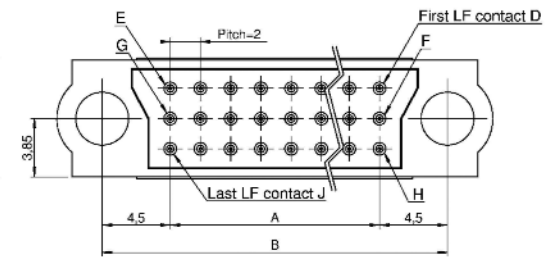
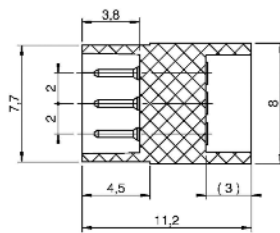
Type : S-C

3 2 | I 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



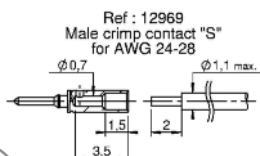
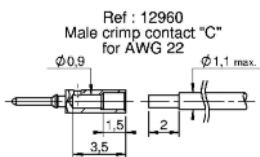
nnn min = 006
nnn max = 120

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

$$B = A + 9$$

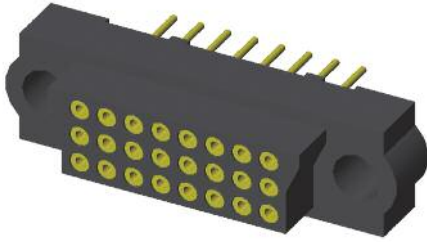
$$C = A + 15$$

Refer to dimension table on cover page



CMM 320 Female

STRAIGHT PCB FOR LF CONTACTS ONLY



Part numbering :

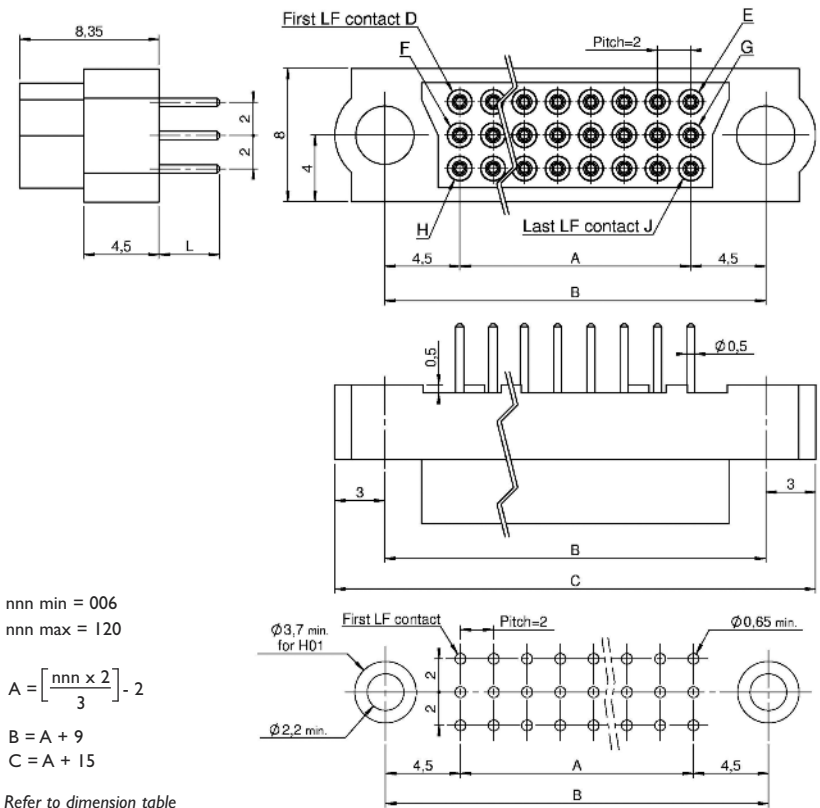
Type : Y-YL

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

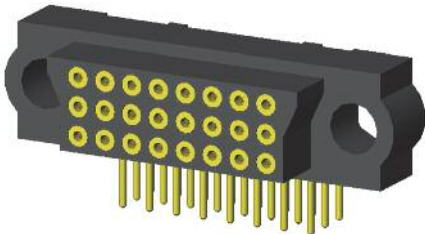
$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

$$C = A + 15$$

Refer to dimension table on cover page

90° PCB FOR LF CONTACTS ONLY



Part numbering :

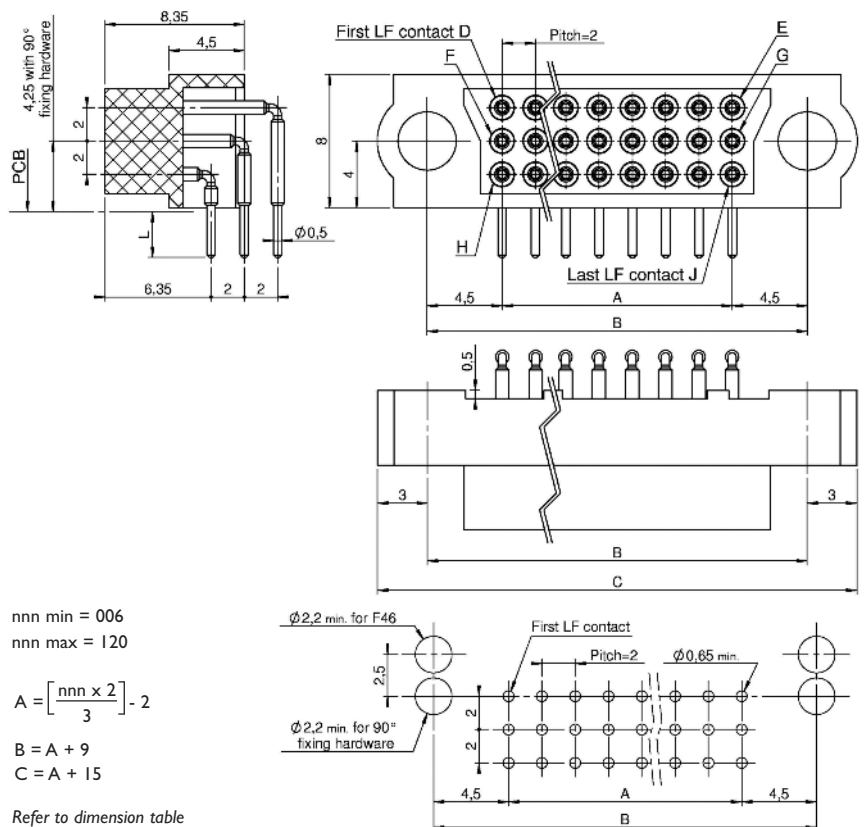
Type : V-VL

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

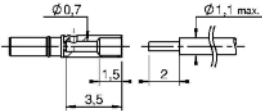
3 2 2 n n n

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

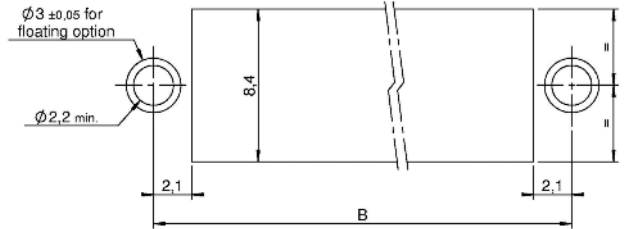
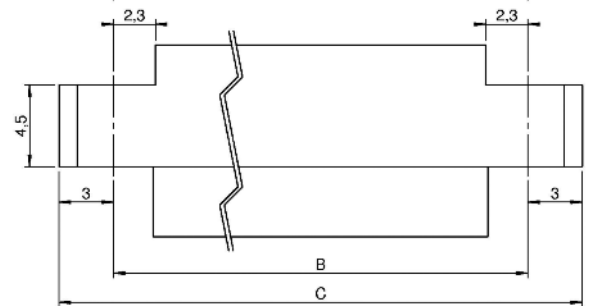
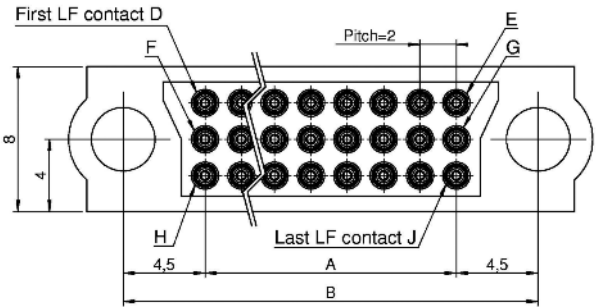
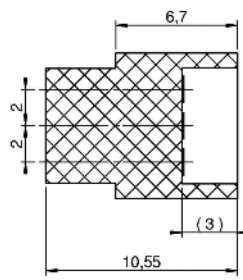
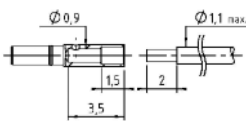
nnn = number of LF contacts

Type	Gauge
S	24-28
C	22

Ref : C12468
Female crimp contact "S"
for AWG 24-28



Ref : C13064-P
Female crimp contact "C"
for AWG 22 cable



nnn min = 006
nnn max = 120

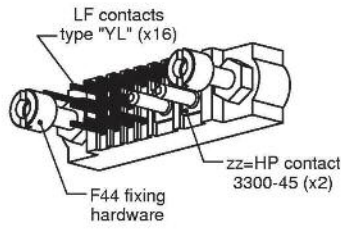
$$A = \left[\frac{nnn \times 2}{3} \right] - 2$$

$$B = A + 9$$

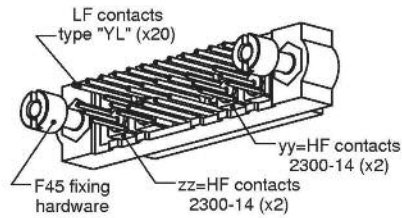
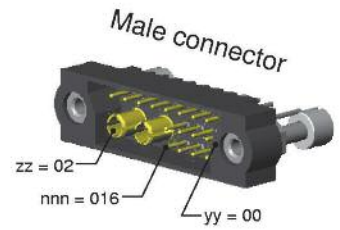
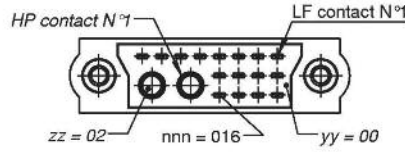
$$C = A + 15$$

Refer to dimension table
on cover page

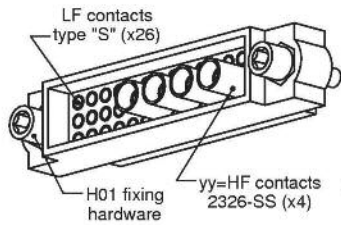
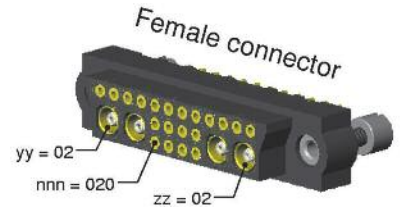
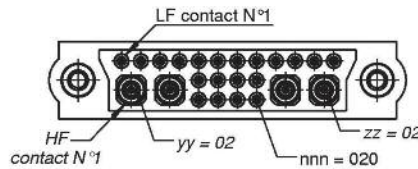
CMM 320 with mixed-layout



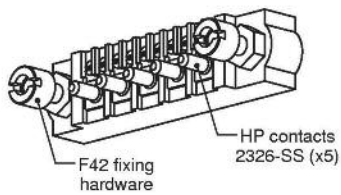
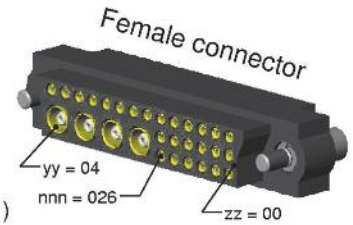
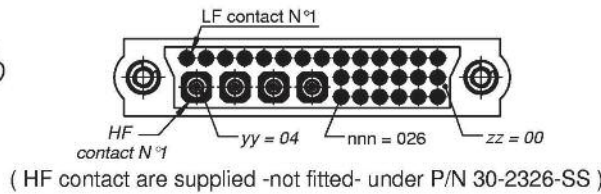
321YL016F44-0002-330045



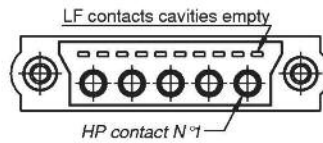
322YL020F45-0202-230014



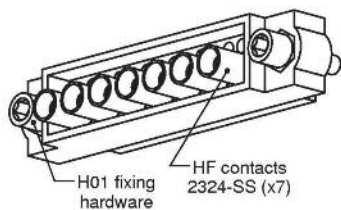
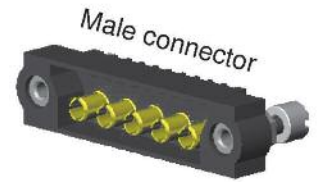
322S026H01-0400-2326SS



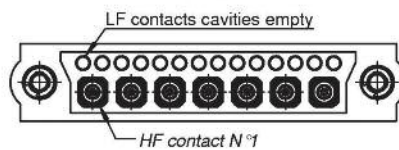
321D000F42-0005-3300CMM



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

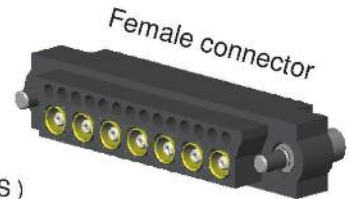


322E000H01-0007-2324SS



(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.



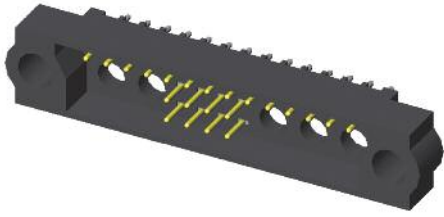
PART NUMBERING REMINDER

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 I)	Number of HF/HP contacts opposite to LF contact number I	HF/HP Contact Type
32	1 male 2 female	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. Type of HF/HP contact : please refer to pages 8-9	HF/HP 30 please refer to pages 75 to 94

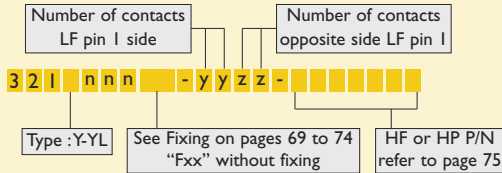
CMM 320

Male mixed-layout

STRAIGHT PCB



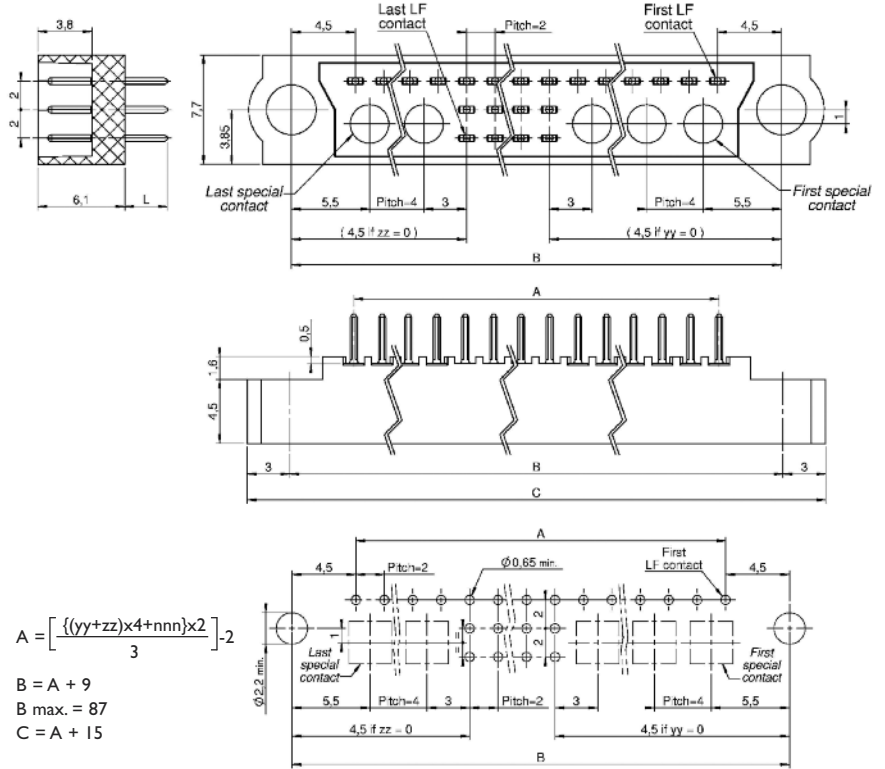
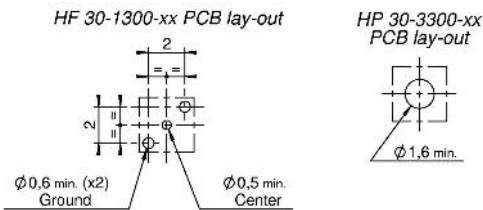
Part numbering :



nnn = number of LF contacts

Type	L
Y	3
YL	4,5

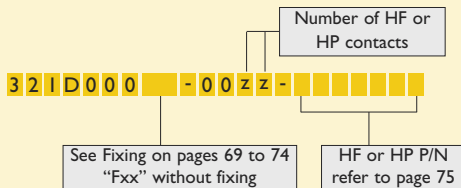
Pattern for special contact :



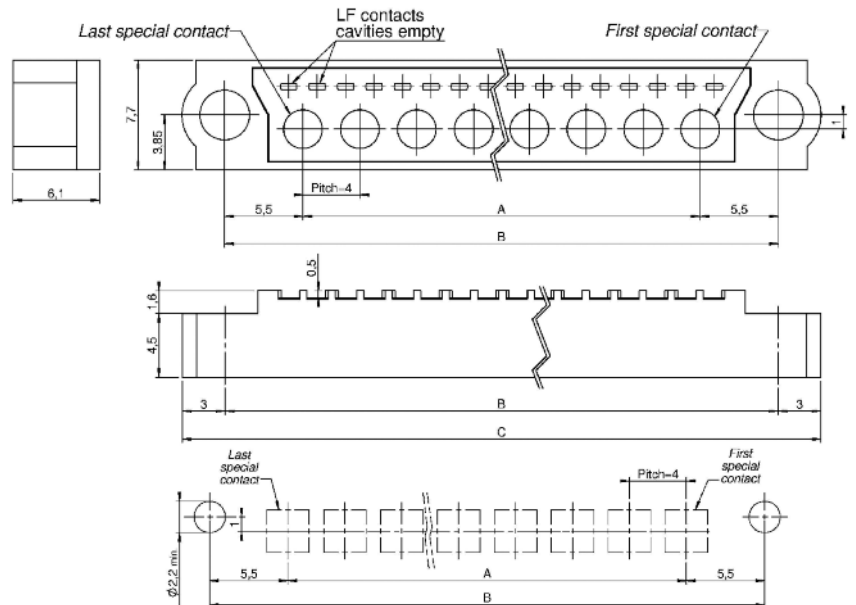
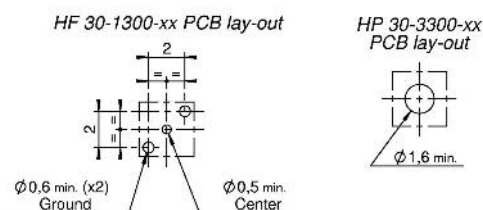
STRAIGHT PCB FOR HP/HF CONTACTS ONLY



Part numbering :



Pattern for special contact :



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

$B = A + 11$

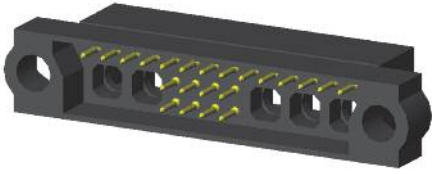
$C = A + 17$

Special contacts min. : 02
max. : 20

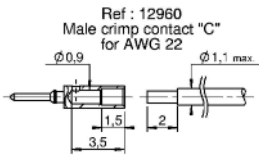
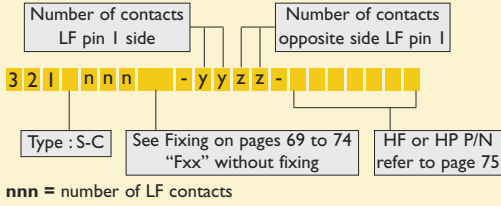
CMM 320

Male mixed-layout

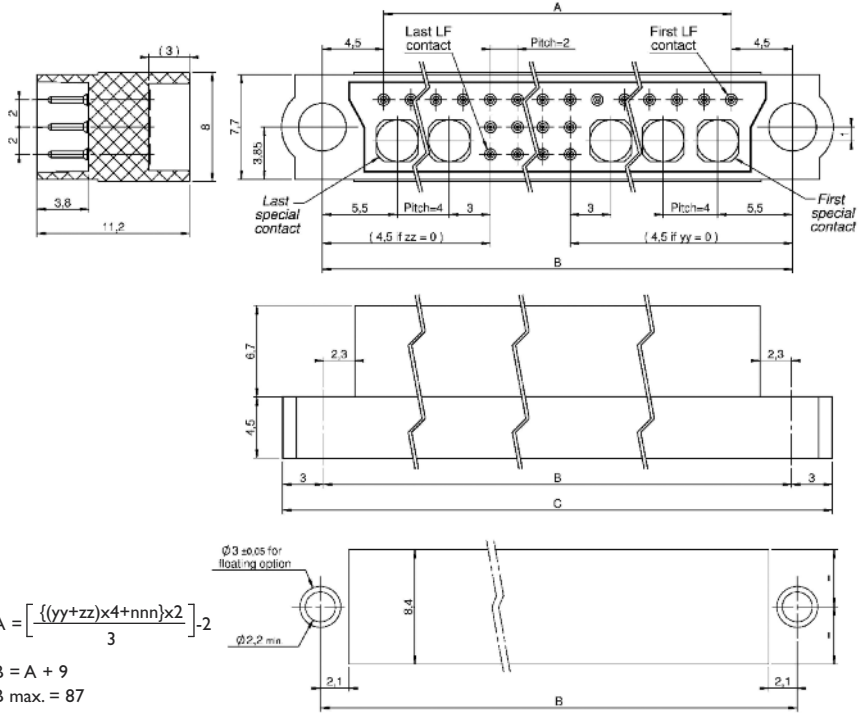
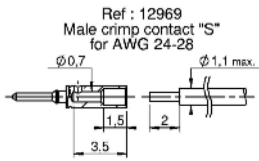
CRIMP



Part numbering :



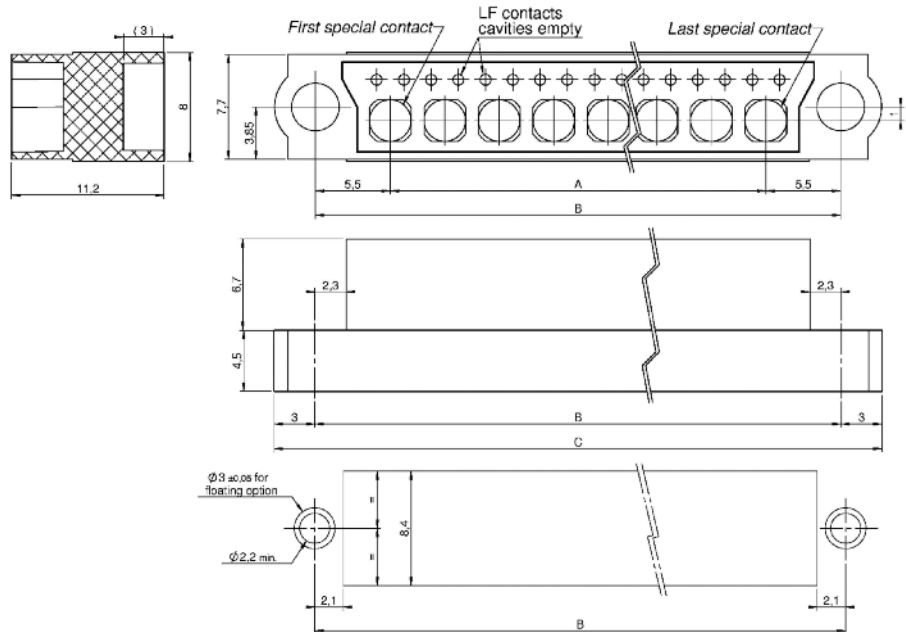
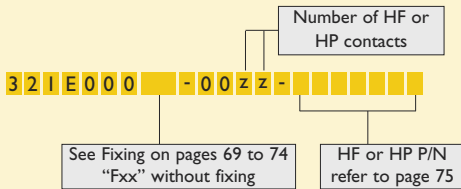
Type	Gauge
S	24-28
C	22



CRIMP FOR HP/HF CONTACTS ONLY



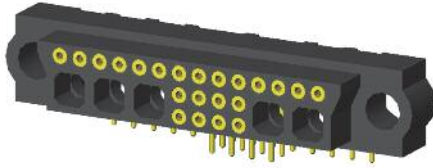
Part numbering :



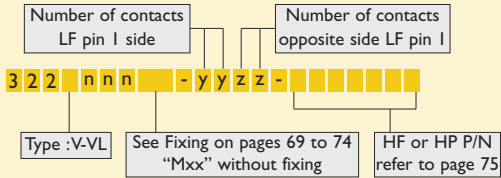
CMM 320

Female mixed-layout

90° PCB



Part numbering :

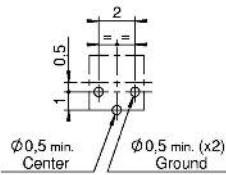


nnn = number of LF contacts

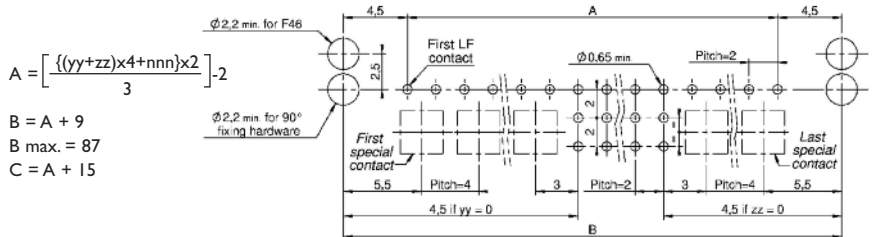
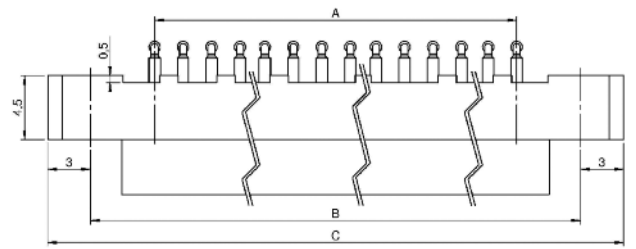
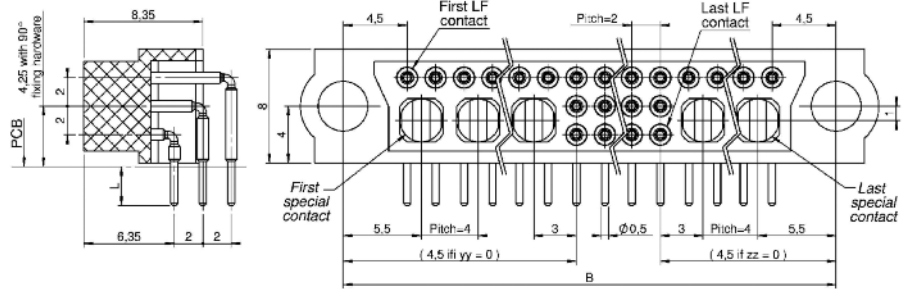
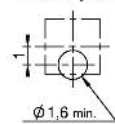
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 30-2400-xx PCB lay-out



HP 30-4400-xx PCB lay-out



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

$$B = A + 9$$

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

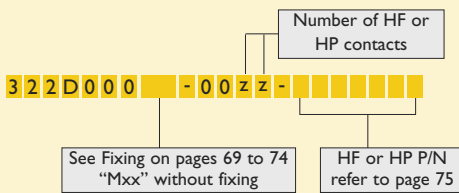
$$C = A + 15$$

Special contacts mounted

90° PCB FOR HP/HF CONTACTS ONLY

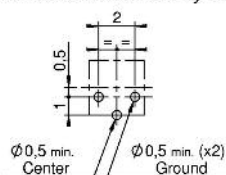


Part numbering :

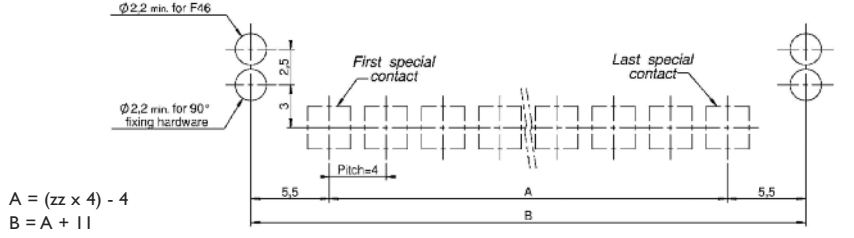
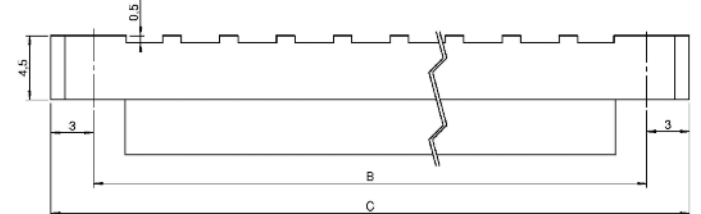
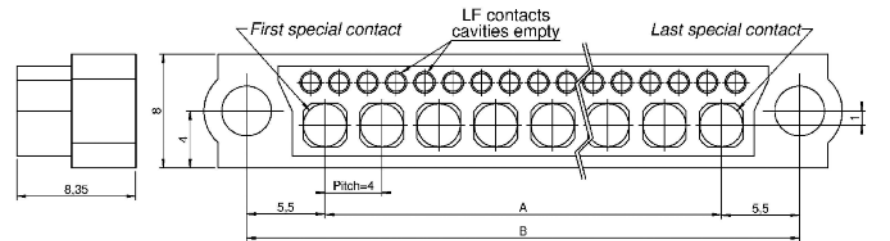
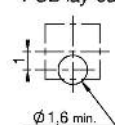


Pattern for special contact :

HF 30-2400-xx PCB lay-out



HP 30-4400-xx PCB lay-out



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

$$B = A + 11$$

$$C = A + 17$$

Special contacts min. : 02
max. : 20

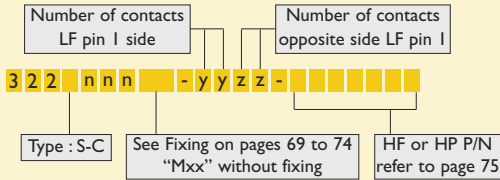
CMM 320

Female mixed-layout

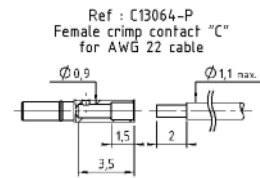
CRIMP



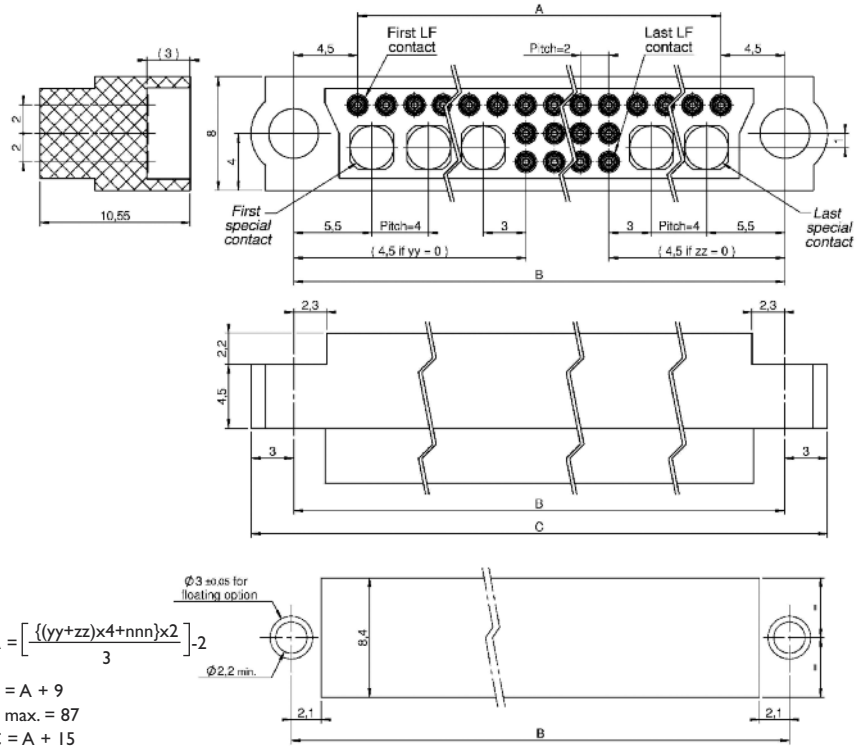
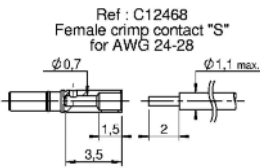
Part numbering :



nnn = number of LF contacts



Type	Gauge
S	24-28
C	22



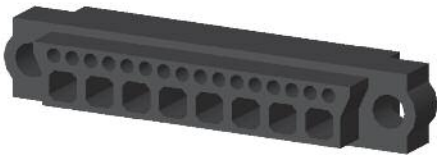
$$A = \left[\frac{((yy+zz) \times 4 + nnn) \times 2}{3} \right] - 2$$

$$B = A + 9$$

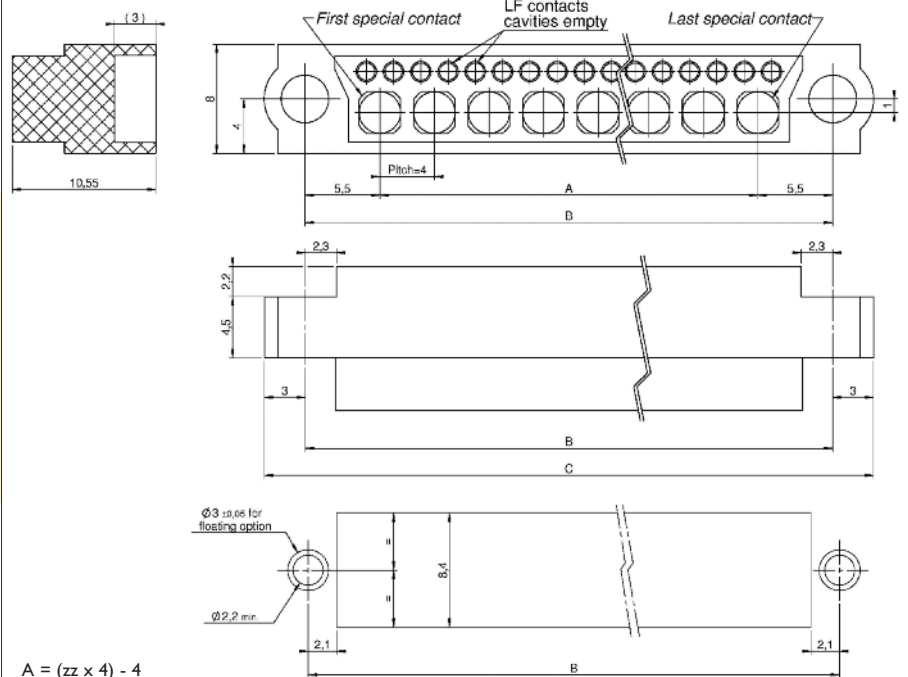
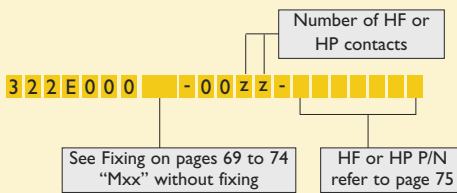
$$B \text{ max.} = 87$$

$$C = A + 15$$

CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



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

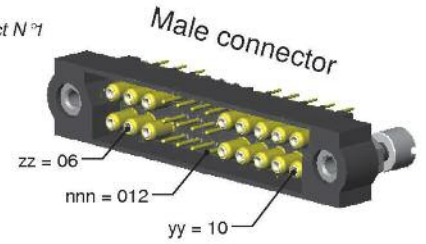
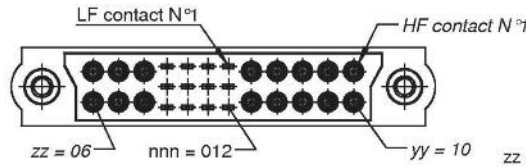
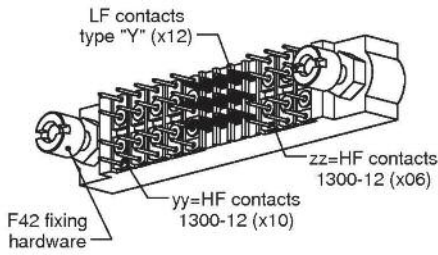
$$B = A + 11$$

$$C = A + 17$$

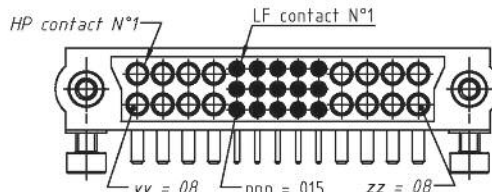
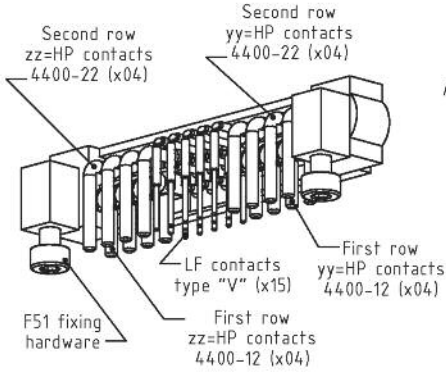
Special contacts min. : 02
max. : 20

CMM 340

341Y012F42-1006-130012

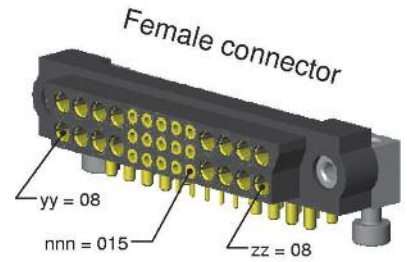


342V015F51-0808-440002

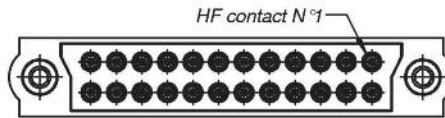
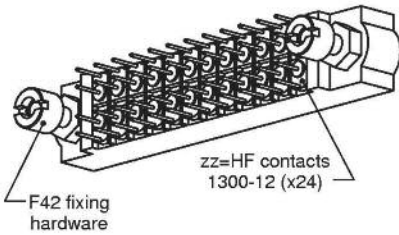


P/N for connector :

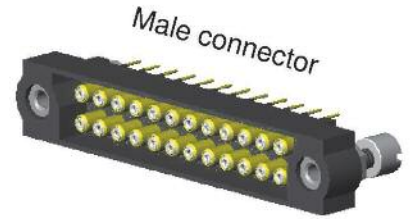
HP 4400-12 + HP 4400-22 = 4400-02



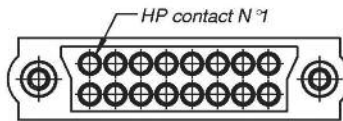
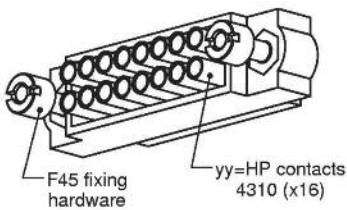
341D000F42-0024-130012



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

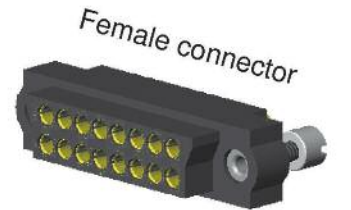


342E000F45-0016-4310



(HP contacts are supplied -not fitted- under P/N 22-4310)

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

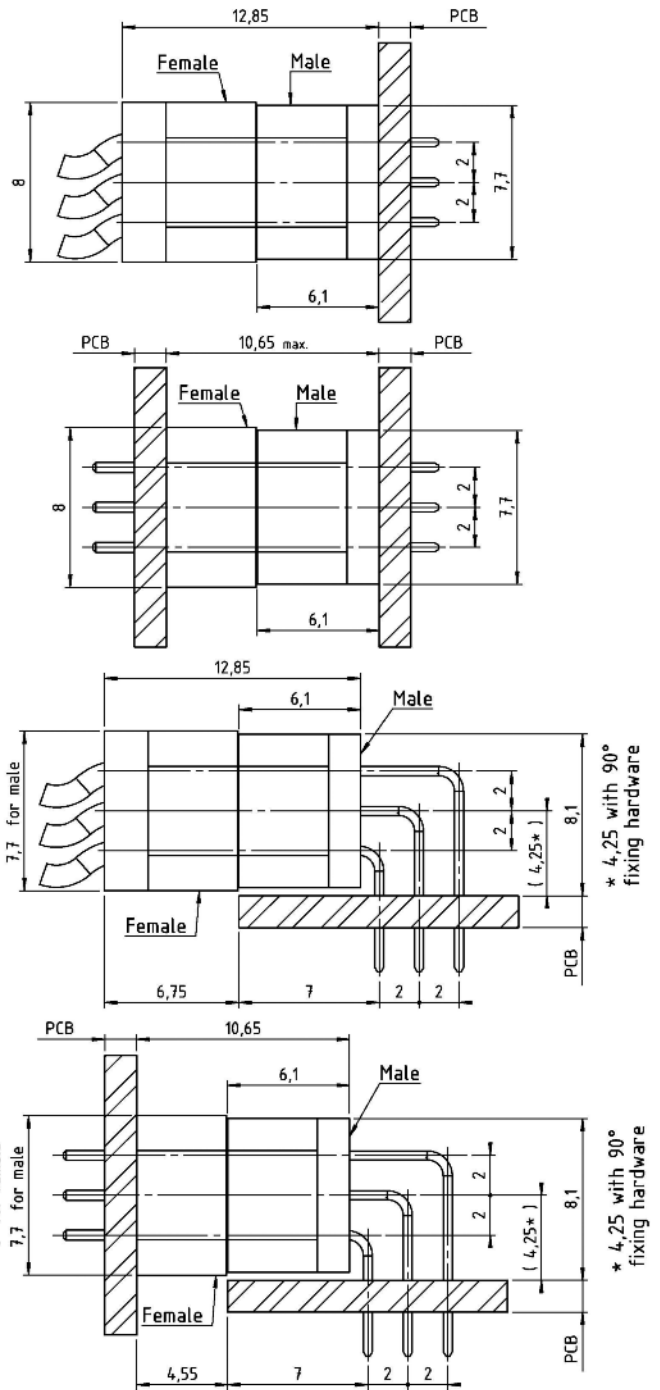
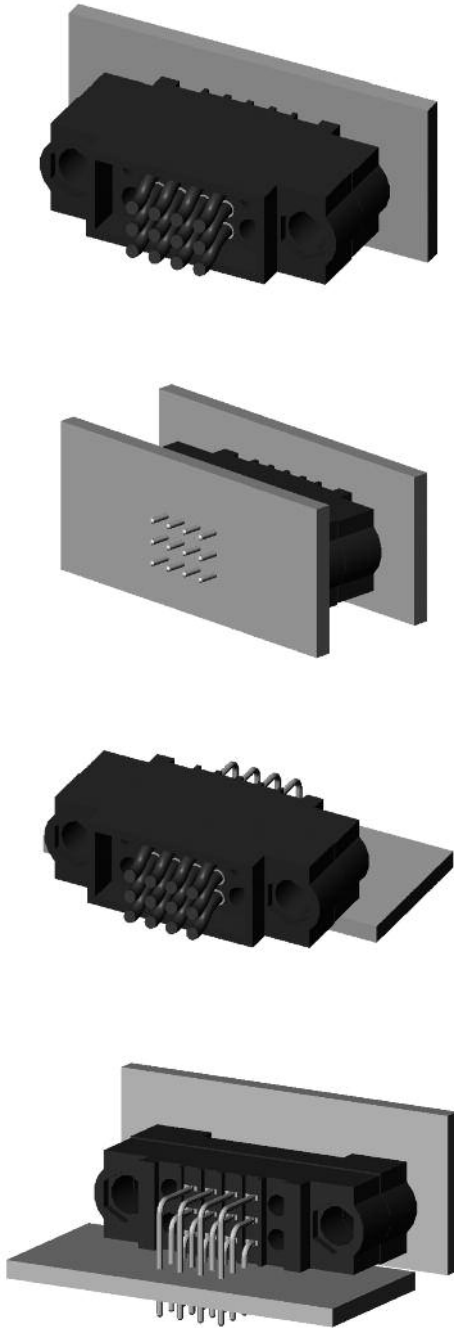


PART NUMBERING REMINDER

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

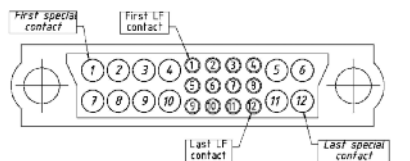
CONNECTOR SPACING



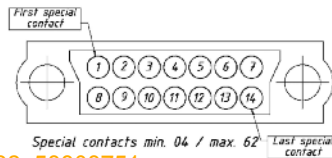
CONTACTS POSITIONS

Female connectors

(shown looking onto mating face)



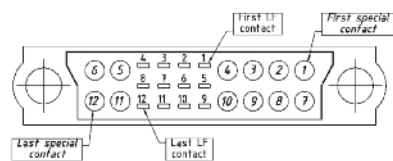
Mixed layout max. configuration depends on the LF contacts number



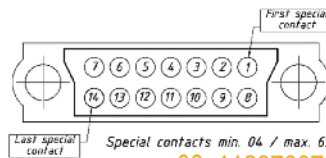
Special contacts min. 04 / max. 62

Male connectors

(shown looking onto mating face)



Mixed layout max. configuration depends on the LF contacts number



Special contacts min. 04 / max. 62



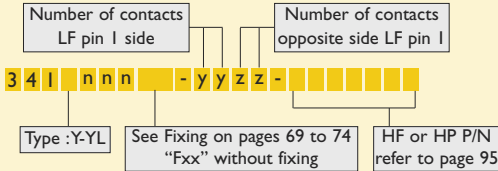
CMM 340

Male mixed-layout

STRAIGHT PCB



Part numbering :

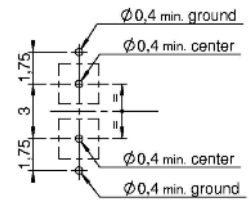


nnn = number of LF contacts

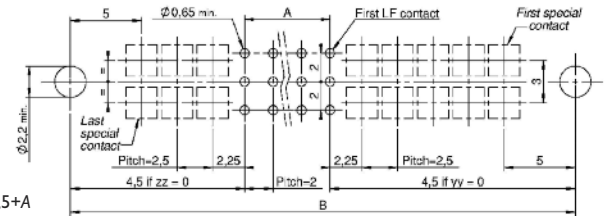
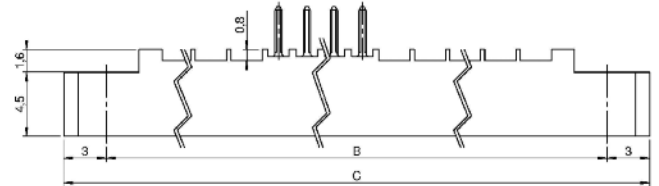
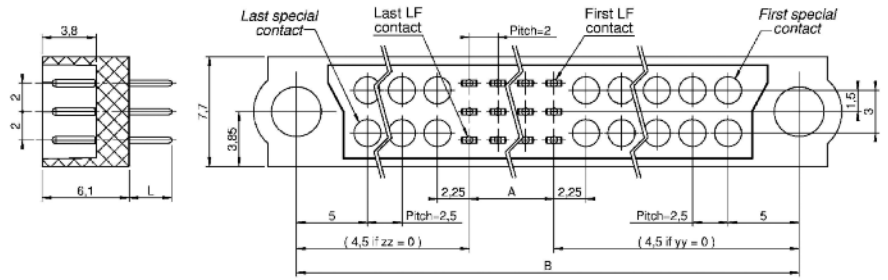
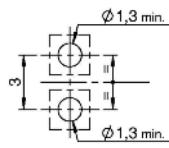
Type	L
Y	3
YL	4,5

Pattern for special contact :

HF 22-1300-xx PCB Lay-out



HP 22-3300-xx PCB Lay-out



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

if yy and zz ≠ 0 :

$$B = \left(\left(\frac{yy + zz}{2} \right) - 2 \right) \times 2.5 + 14.5 + A$$

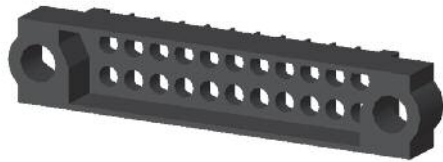
if yy or zz = 0 :

$$B = \left(\left(\frac{yy \text{ or } zz}{2} \right) - 1 \right) \times 2.5 + 11.75 + A$$

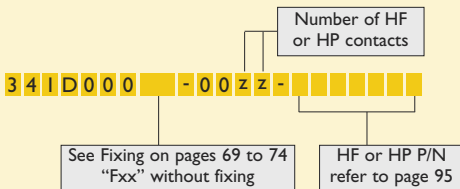
B max. = 87

C = B + 6

STRAIGHT PCB FOR HP/HF CONTACTS ONLY

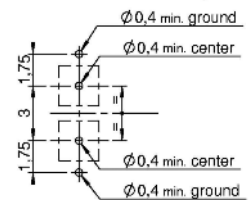


Part numbering :

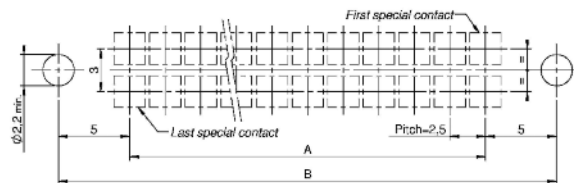
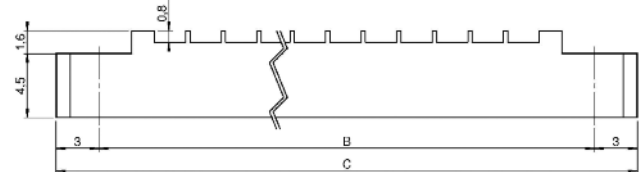
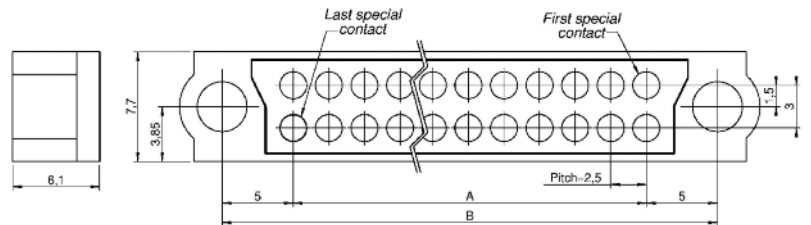
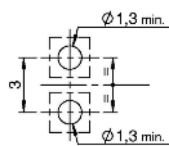


Pattern for special contact :

HF 22-1300-xx PCB Lay-out



HP 22-3300-xx PCB Lay-out



$$A = \left(\frac{zz \times 2.5}{2} \right) - 2.5$$

Special contacts min. : 04

max. : 64

B = A + 10

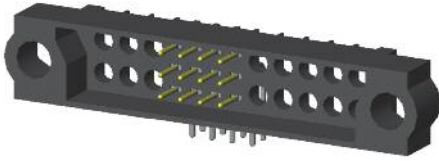
C = B + 6

Refer to dimension table on cover page

CMM 340

Male mixed-layout

90° PCB



Part numbering :

Number of contacts LF pin I side Number of contacts opposite side LF pin I

3 4 1 | n n n - y y z z -

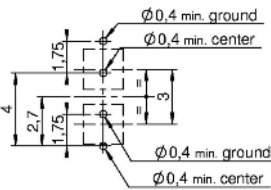
Type : V-VL See Fixing on pages 69 to 74 "Fxx" without fixing HF or HP P/N refer to page 95

nnn = number of LF contacts

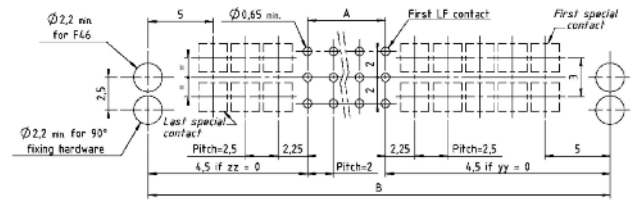
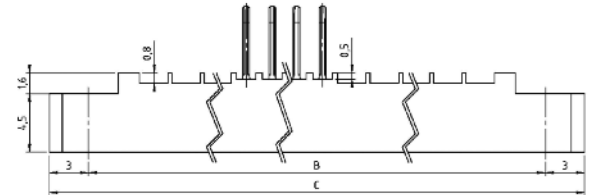
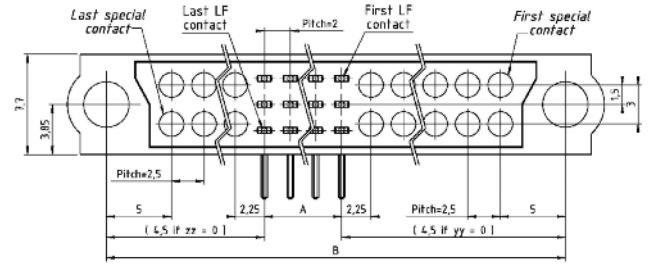
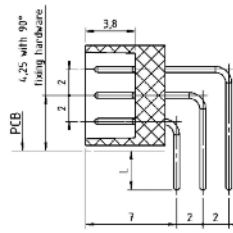
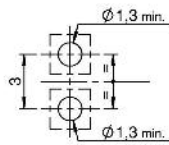
Type	L
V	3
VL	4,5

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 :

$$B = \left\{ \frac{(yy) + (zz)}{2} \right\} \times 2.5 + 14.5 + A$$

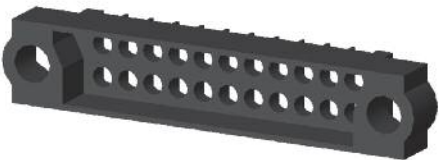
if yy or zz = 0 :

$$B = \left\{ \frac{(yy) \text{ or } (zz)}{2} \right\} - 1 \times 2.5 + 11.75 + A$$

B max. = 87

C = B + 6

90° PCB FOR HP/HF CONTACTS ONLY



Part numbering :

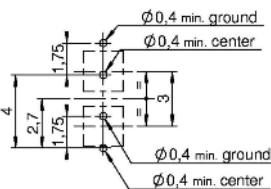
Number of HF or HP contacts

3 4 1 D 0 0 0 - 0 0 z z -

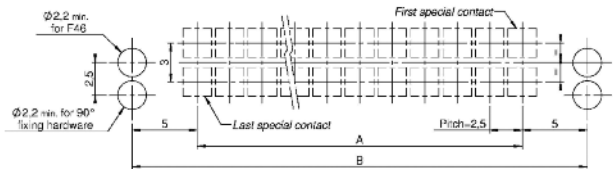
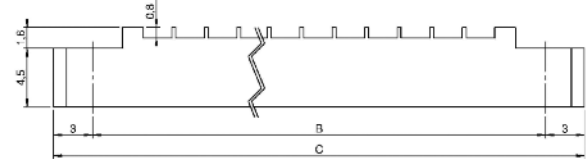
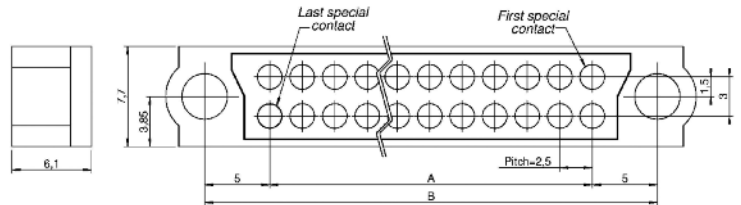
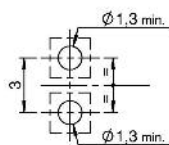
See Fixing on pages 69 to 74 "Fxx" without fixing HF or HP P/N refer to page 95

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

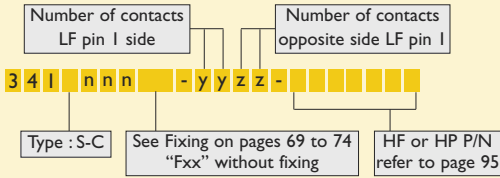
CMM 340

Male mixed-layout

CRIMP

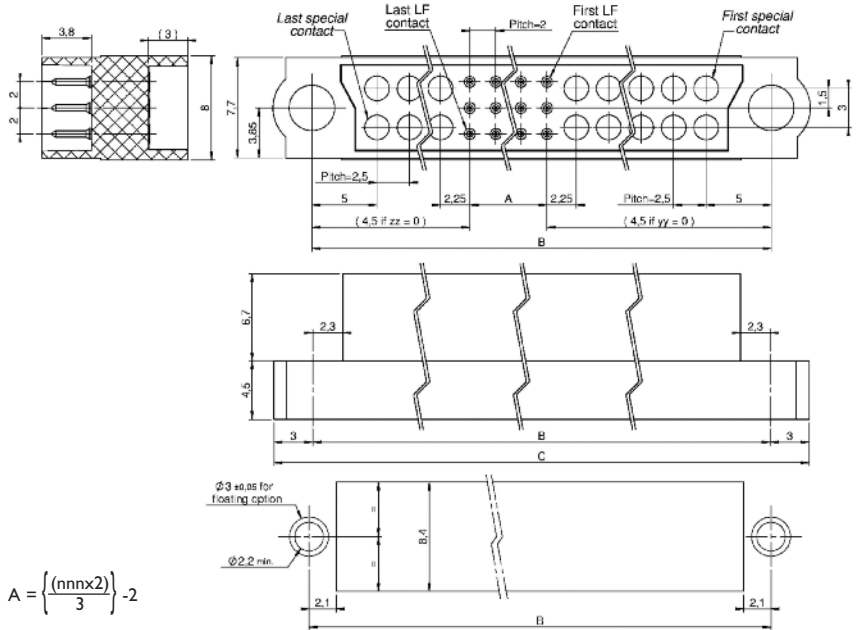
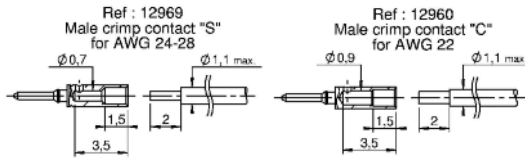


Part numbering :



nnn = number of LF contacts

Type	Gauge
S	24-28
C	22



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

if yy and zz ≠ 0 :

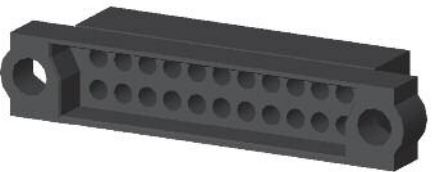
$$B = \left\{ \left(\frac{(\text{yy}) + (\text{zz})}{2} \right) - 2 \right\} \times 2.5 + 14.5 + A$$

if yy or zz = 0 :

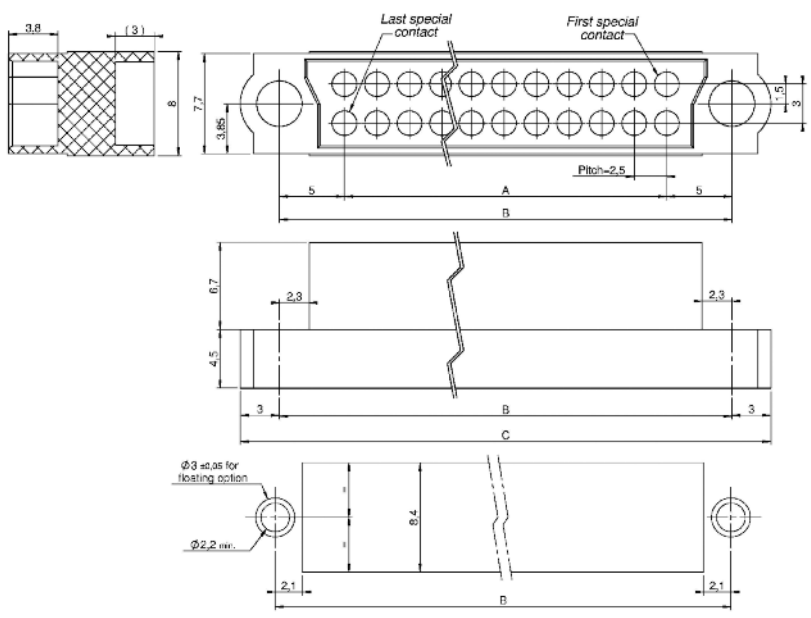
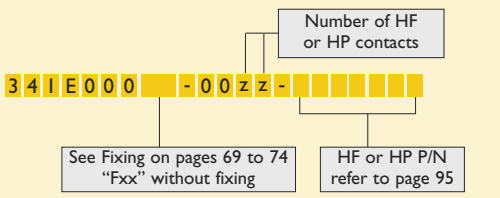
$$B = \left\{ \left(\frac{(\text{yy}) \text{ or } (\text{zz})}{2} \right) - 1 \right\} \times 2.5 + 11.75 + A$$

B max. = 87
C = B + 6

CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



$$A = \left(\frac{(\text{zz} \times 2.5)}{2} \right) - 2.5$$

Special contacts min. : 04
max. : 64

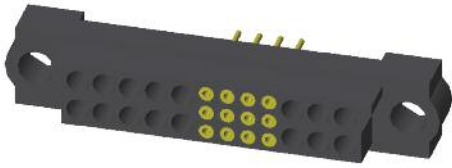
B = A + 10
C = B + 6

Refer to dimension table on cover page

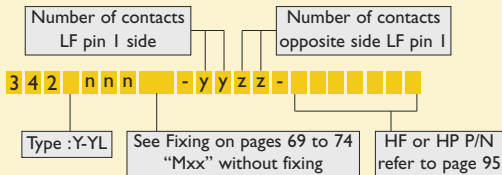
CMM 340

Female mixed-layout

STRAIGHT PCB



Part numbering :

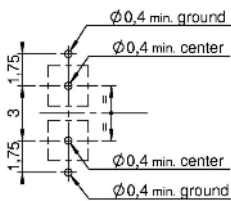


nnn = number of LF contacts

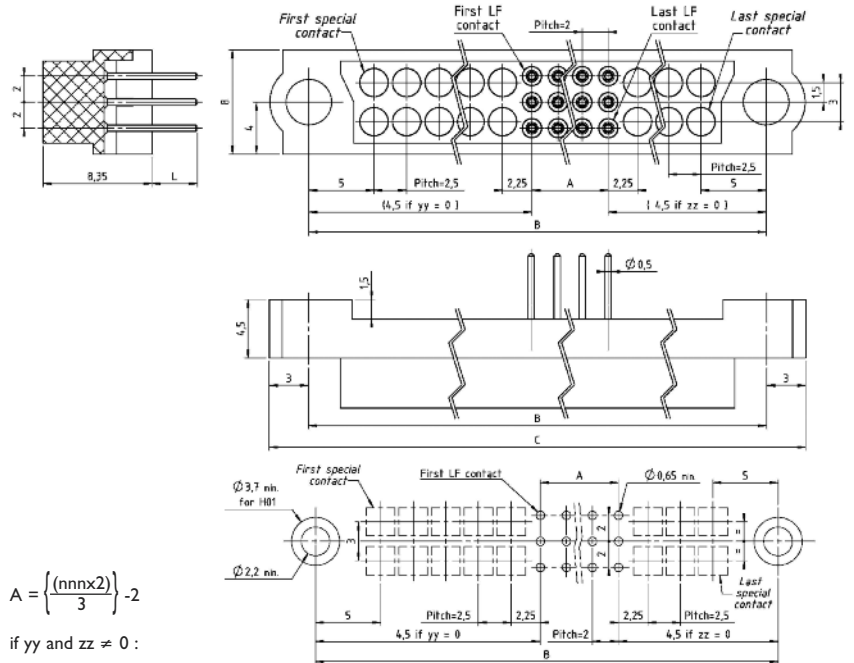
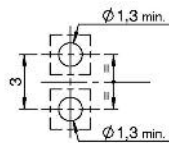
Type	L
Y	3
YL	4,5

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 :

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

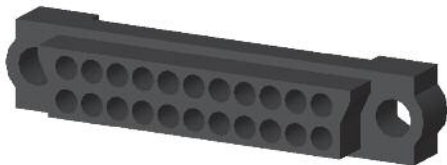
if yy or zz = 0 :

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

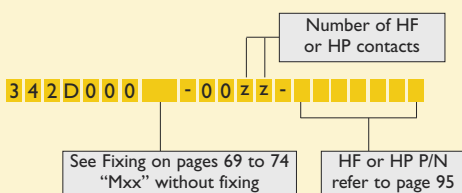
B max. = 87

C = B + 6

STRAIGHT PCB FOR HP/HF CONTACTS ONLY

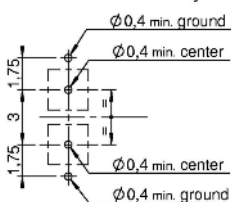


Part numbering :

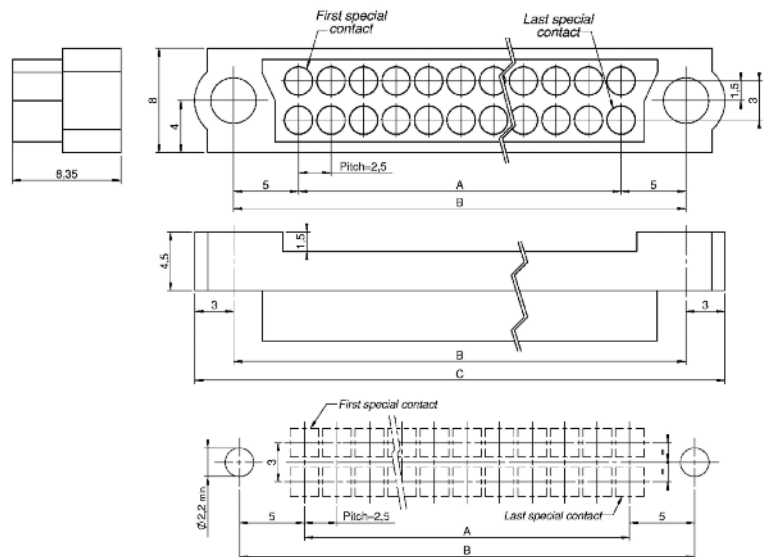
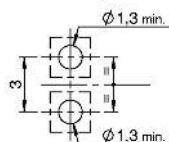


Pattern for special contact :

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

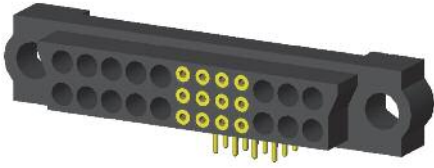
C = B + 6

Refer to dimension table on cover page

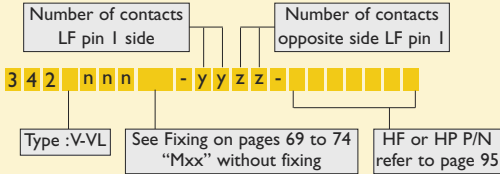
CMM 340

Female mixed-layout

90° PCB



Part numbering :

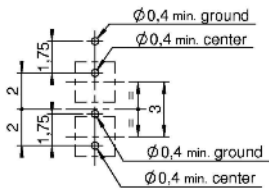


nnn = number of LF contacts

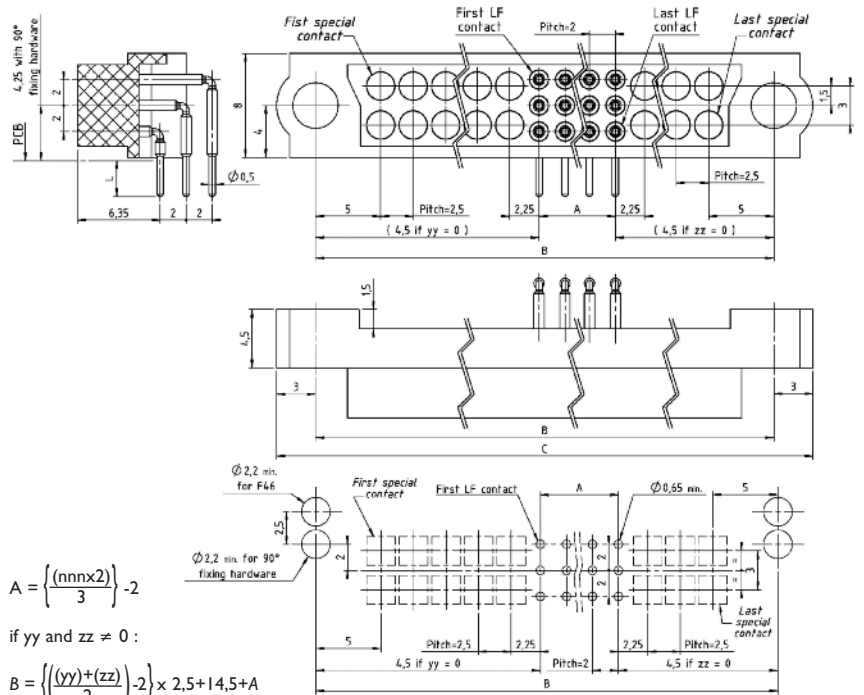
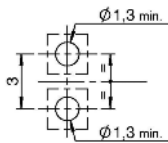
Type	L
V	3
VL	4,5

Pattern for special contact :

HF 22-2400-xx PCB Lay-out



HP 22-4400-xx PCB Lay-out



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

if yy and zz ≠ 0 :

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

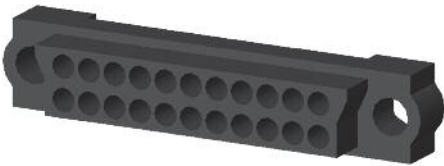
if yy or zz = 0 :

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

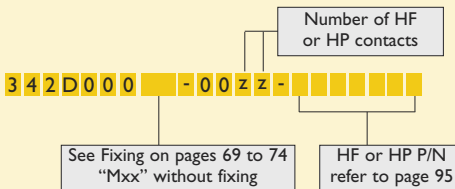
B max. = 87

C = B + 6

90° PCB FOR HP/HF CONTACTS ONLY

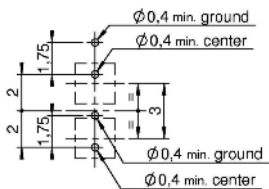


Part numbering :

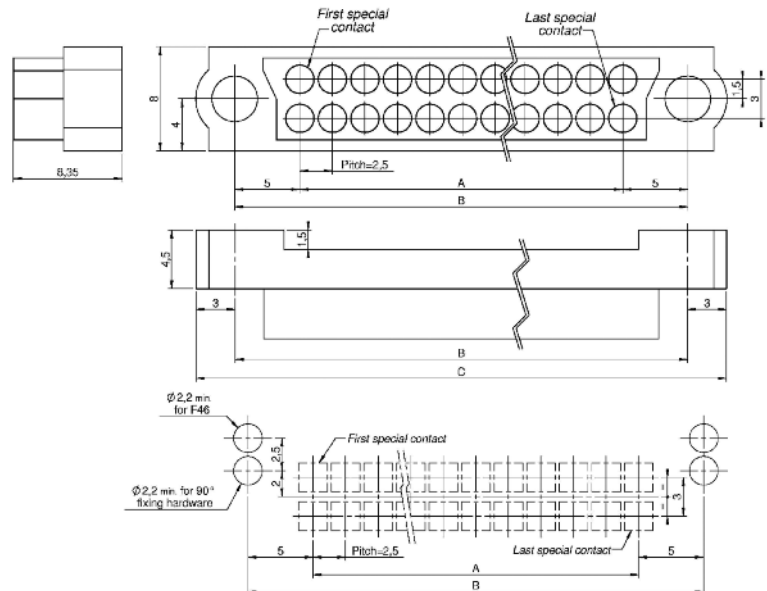
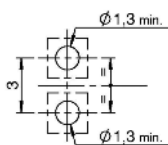


Pattern for special contact :

HF 22-2400-xx PCB Lay-out



HP 22-4400-xx PCB Lay-out



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

Special contacts min. : 04
max. : 64

B = A + 10

C = B + 6

Refer to dimension table on cover page

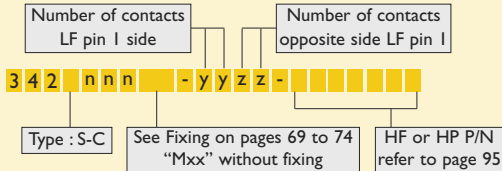
CMM 340

Female mixed-layout

CRIMP

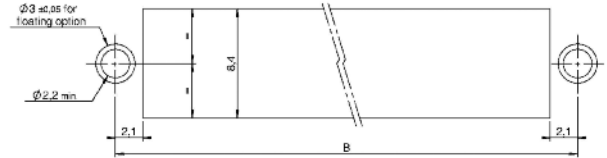
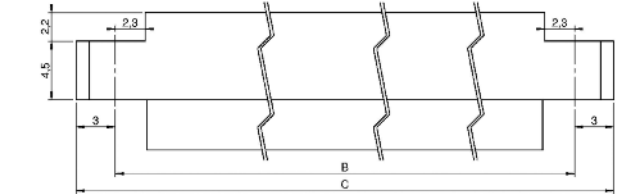
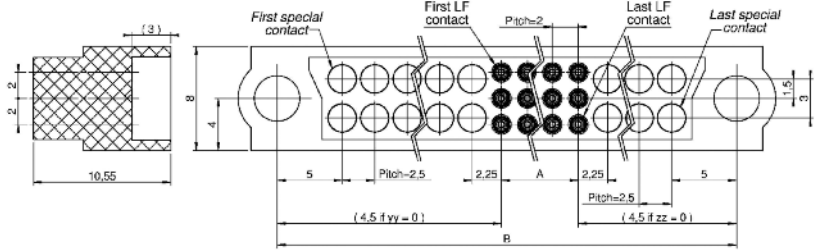
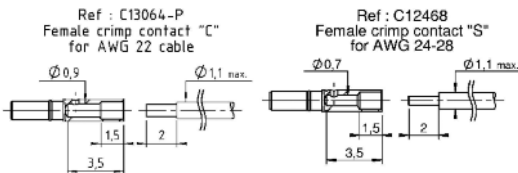


Part numbering :



nnn = number of LF contacts

Type	Gauge
S	24-28
C	22



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

if yy and zz ≠ 0 :

$$B = \left\{ \frac{(yy) + (zz)}{2} \right\} - 2 \times 2.5 + 14.5 + A$$

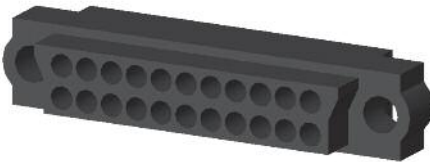
if yy or zz = 0 :

$$B = \left\{ \frac{(yy) \text{ or } (zz)}{2} \right\} - 1 \times 2.5 + 11.75 + A$$

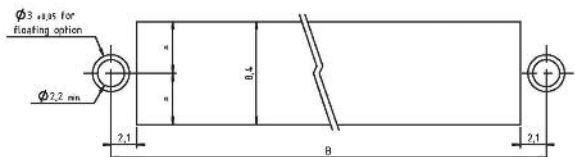
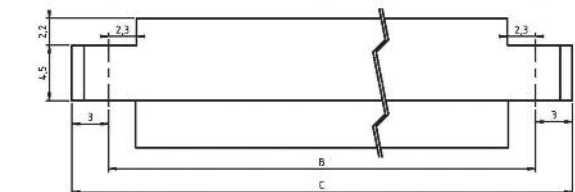
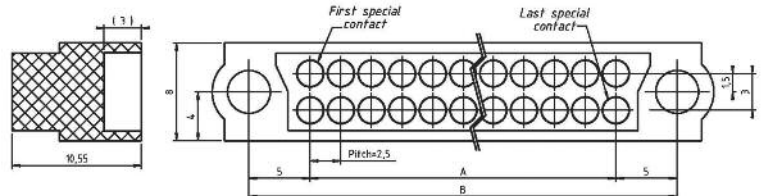
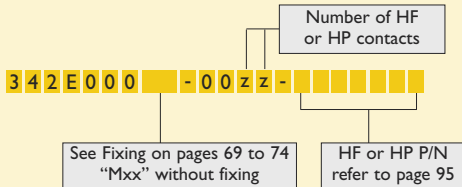
B max. = 87

C = B + 6

CRIMP FOR HP/HF CONTACTS ONLY



Part numbering :



$$A = \left(\frac{(zz \times 2.5)}{2} \right) - 2.5$$

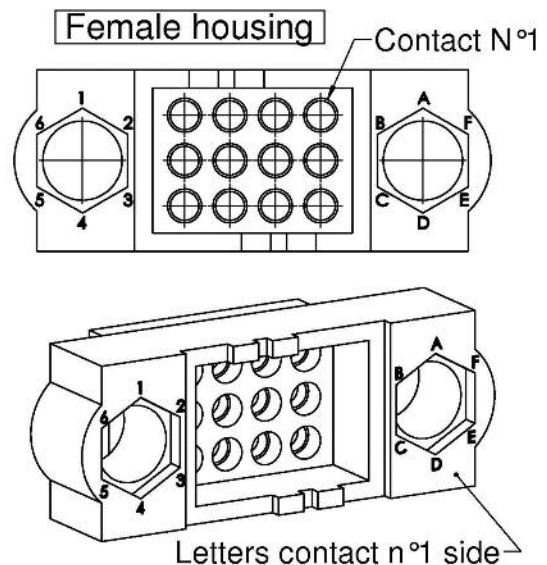
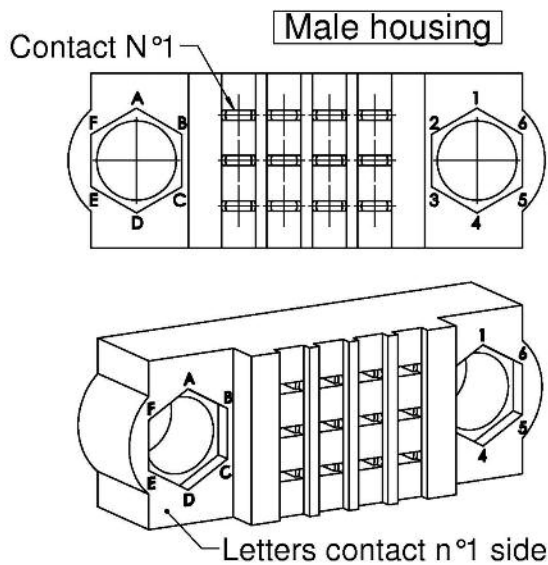
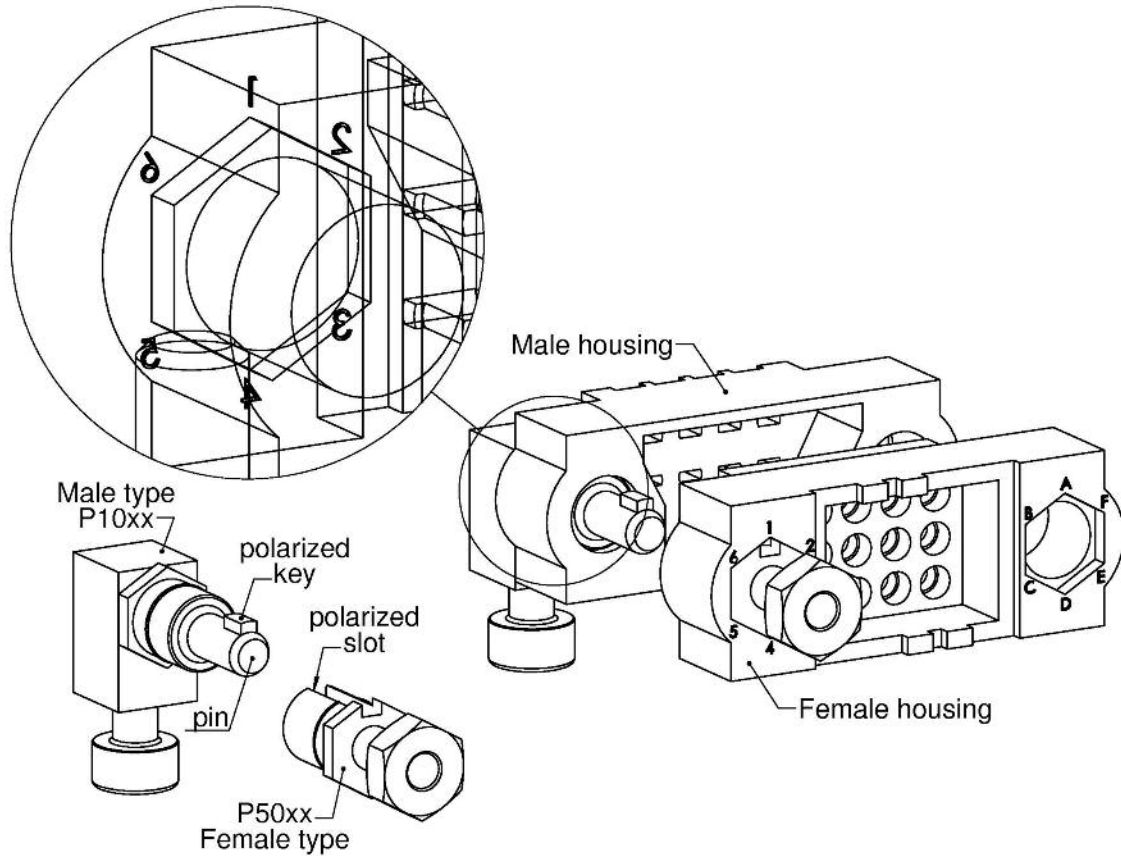
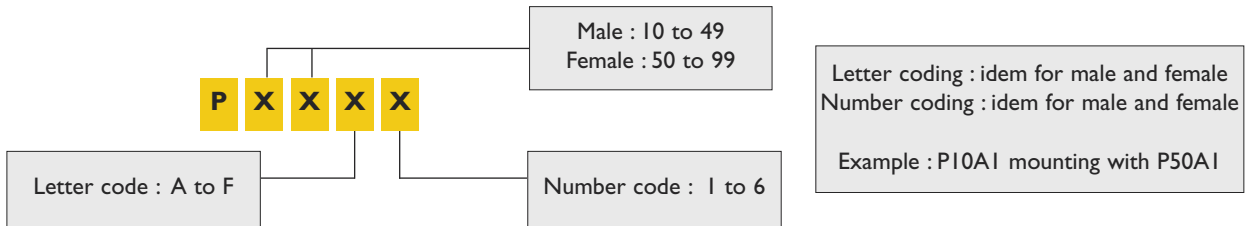
B = A + 10

C = B + 6

Special contacts min.: 04
max.: 64

Refer to dimension table on cover page

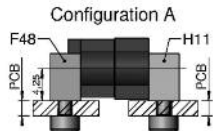
Fixing hardware for CMM SERIES 320/340



Fixing hardware for CMM 320/340

RACK INTERCONNECTION

Type of contact in connector		MALE CONNECTORS CMM SERIES 320 & 340 RACK																					
		Type of PCB mount		PCB Contacts								Contacts on cable											
				Straight				90°				Straight			90°								
PCB thickness (mm)		0,8 min. 2 max.		1,5 min. 4 max.		0,8 min. 2 max.		1,5 min. 4 max.		4 max.		0,8 min. 2 max.		1,5 min. 4 max.		4 max.		Floating	No fixing on PCB				
Fixing		M38	M38H	M36	M36H	F58	F58H	F59	F59H	F48	H11	M35	M39	F48	H11	M3xx	F40						
FEMALE CONNECTORS SERIE 320 & 340 RACK	PCB Contacts	90° Straight	0,8 min. 2 max.	M35					OK	OK	OK	OK	OK						OK	OK			
				M35H					OK	OK	OK	OK	OK								OK		
			1,5 min. 4 max.	M39						OK	OK	OK	OK	OK								OK	
				M39H						OK	OK	OK	OK	OK									OK
			4 max.	H11						OK	OK	OK	OK	A								OK	
		F48	OK	OK	OK	OK						A	OK	OK			A	OK					
		No fixing on PCB	F40	OK	OK	OK	OK							OK	OK			OK	OK				
Contacts on cable	Straight	0,8 min. 2 max.	M35						OK	OK	OK	OK	OK							OK			
		1,5 min. 4 max.	M39						OK	OK	OK	OK	OK								OK		
		90°	H11						OK	OK	OK	OK	A								OK		
			F48	OK	OK	OK	OK								A	OK	OK			A	OK		
		4 max.	F48	OK	OK	OK	OK								A	OK	OK			A	OK		
		Floating	M3xx						OK	OK	OK	OK							OK				
		No fixing on PCB	F40	OK	OK	OK	OK							OK	OK			OK	OK				



Recommended Torque : 0,2 N/m



A Card extension

REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
F40	<p>Straight on PCB</p>		<p>F40 : CMM female : Y-YL-S-C-E (D : straight) CMM male : S-C-E</p>
F48	<p>90° on PCB 4 max.</p>		<p>F48 : CMM female : V-VL-S-C-E (D : 90°) CMM male : V-VL-R-S-C-E (D : 90°)</p>
F58	<p>Straight on PCB 0,8 min / 2 max</p>		<p>F58 : CMM male : Y (D : straight)</p>
F58H			<p>F58H : CMM male : Y (D : straight)</p>
F59	<p>Straight on PCB 1,5 min / 4 max</p>		<p>F59 : CMM male : YL (D : straight)</p>
F59H			<p>F59H : CMM male : YL (D : straight)</p>

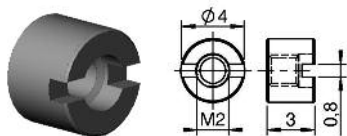
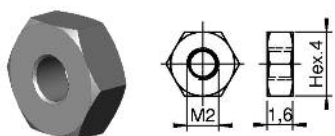
Make it a habit! Use easy & automatic configurators for CMM micro-connectors single part and mating-half construction on www.nicomatic.com.




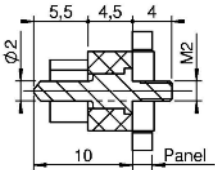


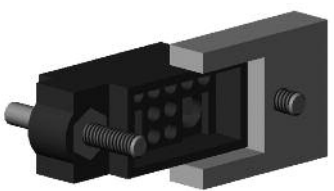
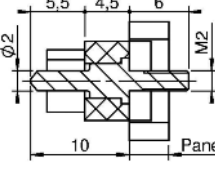


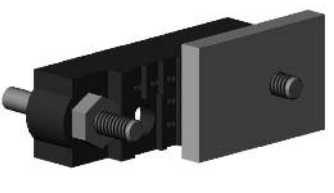
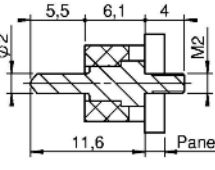



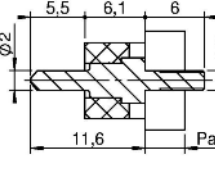
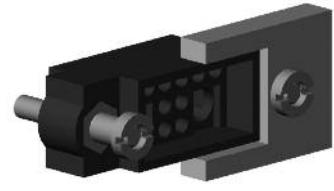
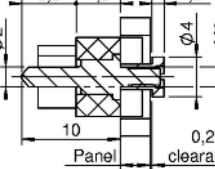
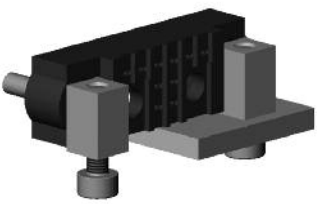
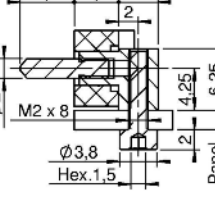
Fixing hardware for CMM 320/340

RACK INTERCONNECTION

HEXAGONAL NUT

STANDARD NUT



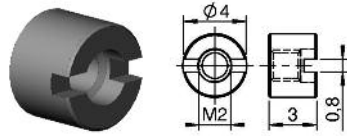
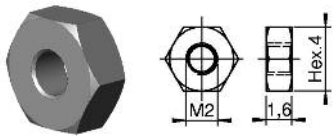
REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
M35  M35H 	Straight on PCB 0,8 min / 2 max 		M35 : CMM female : Y-S-C (D-E : straight) CMM male : S-C (E : straight) M35H : CMM female : Y (D : straight)
M39  M39H 	Straight on PCB 1,5 min / 4 max 		M39 : CMM female : YL-S-C (D-E : straight)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

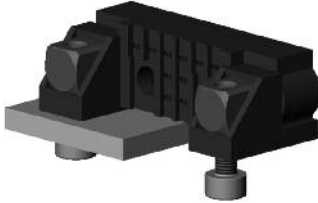
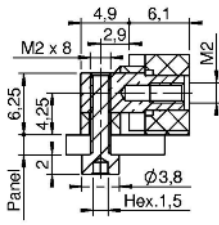
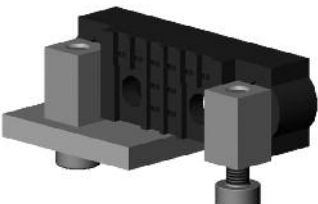
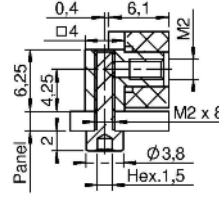

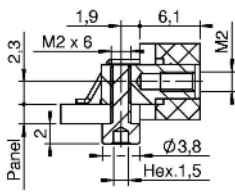

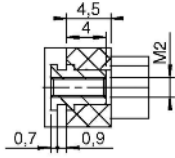


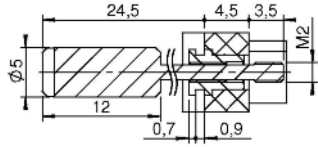



Recommended Torque : 0,2 N/m

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 F52H	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)
F45 F45H	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)
F42 F42H	Straight on PCB 0,8 min / 2 max 		F42 : CMM male : Y (D : straight) F42H : CMM male : Y (D : straight)
F44 F44H	Straight on PCB 1,5 min / 4 max 		F44 : CMM male : YL (D : straight) F44H : CMM male : YL (D : straight)

Fixing for CMM 320/340

CMM 320/340 MALE AND FEMALE TAPPED FIXING HARDWARE

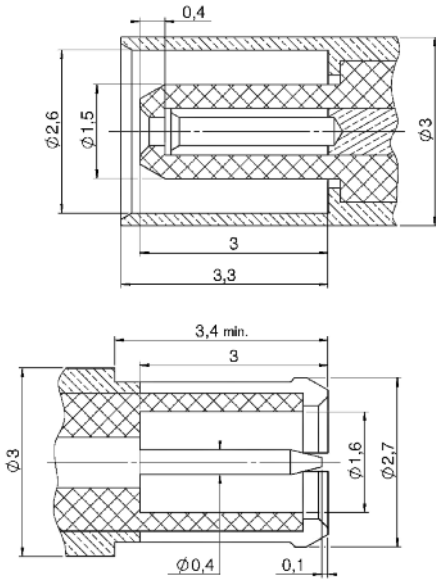
REFERENCE	ASSEMBLY ON PCB	OVERALL DIMENSIONS	RECOMMENDATION
F46	90° on PCB 4 max. 		F46 : CMM female : V-VL-S-C-E (D : 90°) CMM male : V-VL-R-S-C-E (D : 90°)
F51	90° on PCB 4 max. 		F51 : CMM female : V-VL-S-C-E (D : 90°) CMM male : V-VL-R-S-C-E (D : 90°)
F50	90° on PCB 4 max. 		F50 : Card edge LF contact or mixed
F57	Cover option only 		Male and female S-C (E : straight) 
M45	Cover option only 		Male and female S-C (E : straight) 

HF : High Frequency contacts series 30

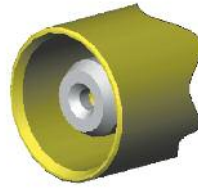
HP : High Power contacts series 30

FOR CMM 220 AND 320

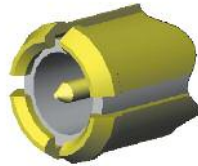
INSERTION



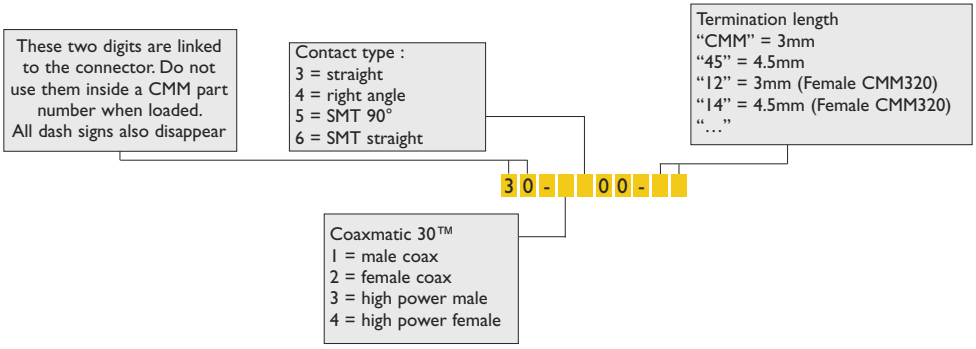
HF female contact insertion



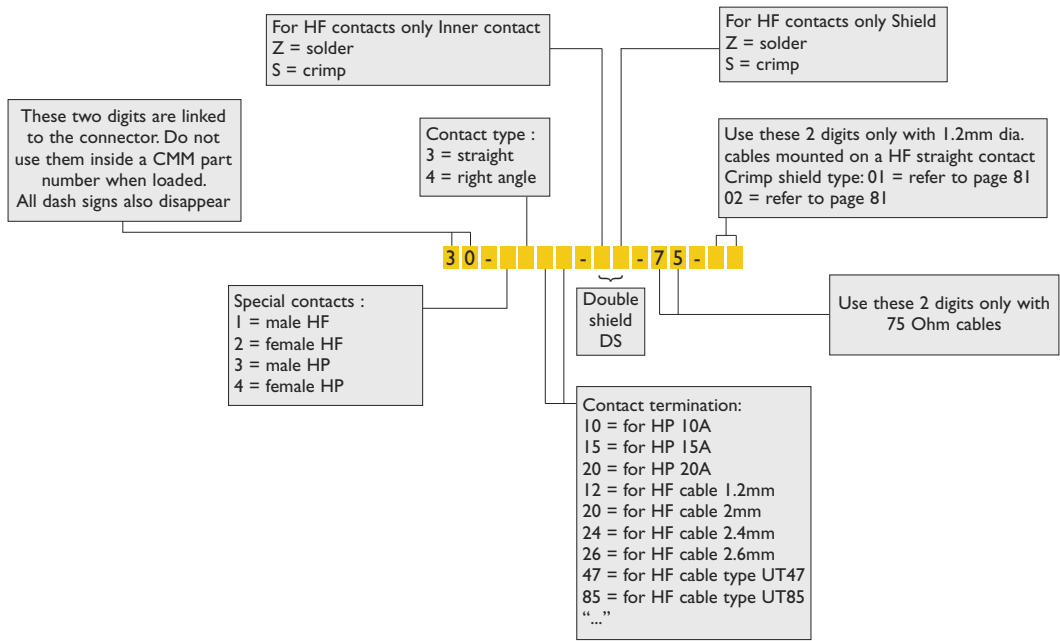
HF male contact insertion



PART NUMBERING FOR PCB HF & HP SPECIAL CONTACTS

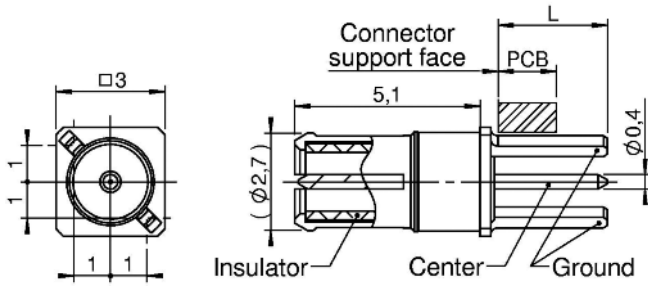


PART NUMBERING FOR HF & HP SPECIAL CONTACTS ON-CABLE

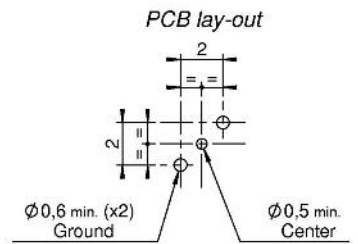
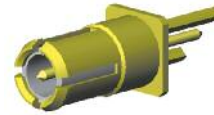


HF : High Frequency contact series 30

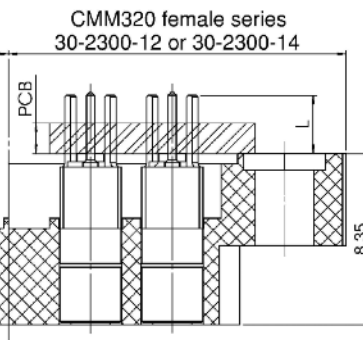
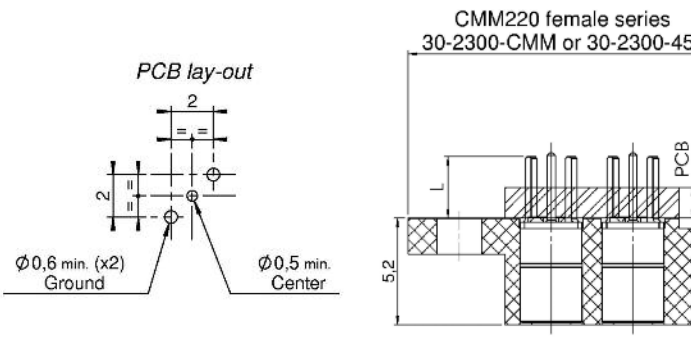
MALE STRAIGHT ON PCB P/N 30-1300-xx



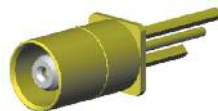
Loaded	Length L
I300CMM	3 mm
I30045	4,5 mm



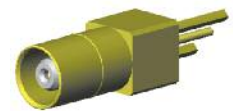
FEMALE STRAIGHT ON PCB P/N 30-2300-xx



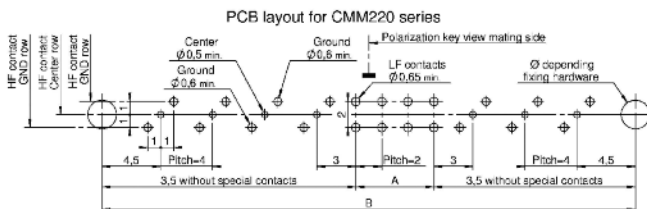
Loaded	Length L
2300CMM	3 mm
230045	4,5 mm



Loaded	Length L
230012	3 mm
230014	4,5 mm



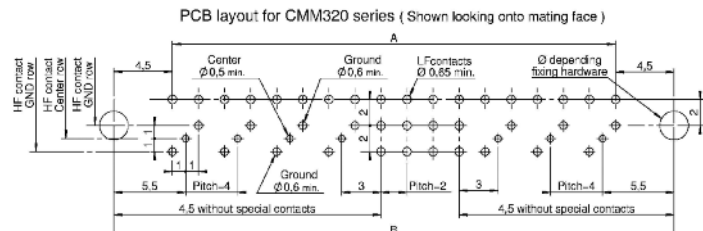
PCB LAYOUT 30-1300-xx & 30-2300-xx



$$A = nn - 2$$

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

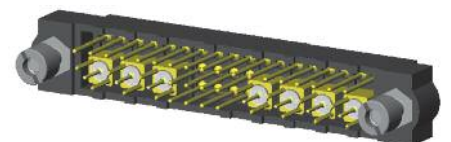
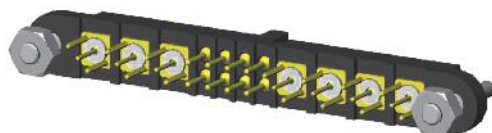
$$B \text{ max.} = 65 \text{ mm}$$



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

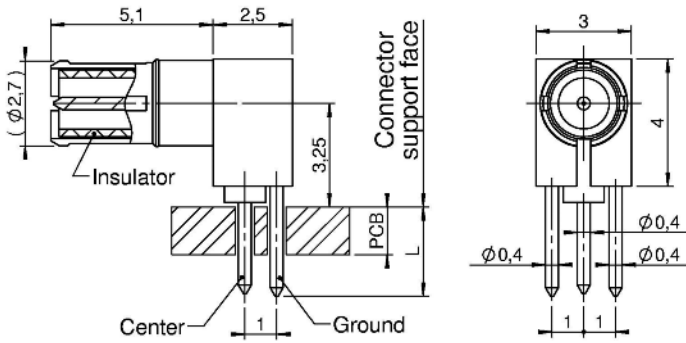
$$B = A + 9$$

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

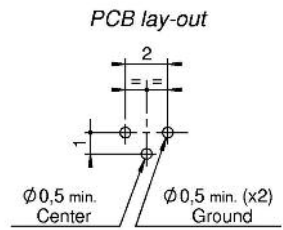
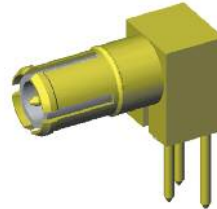


HF : High Frequency contact series 30

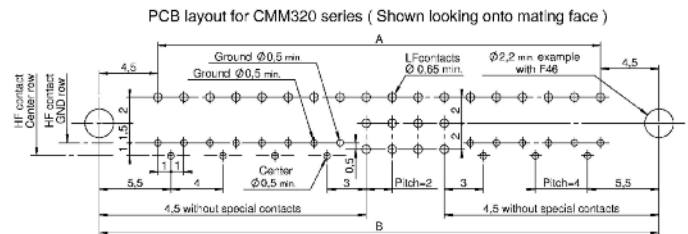
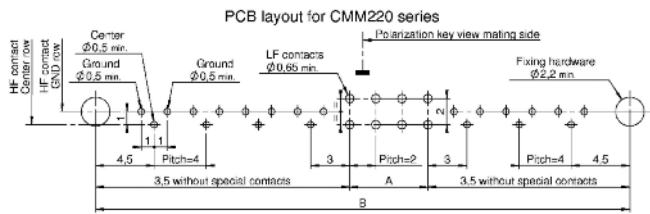
MALE 90° PCB P/N 30-1400-xx



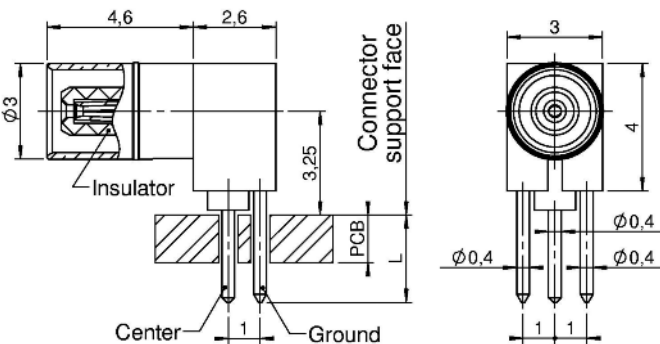
Loaded	Length L
I400CMM	3 mm
I40045	4,5 mm



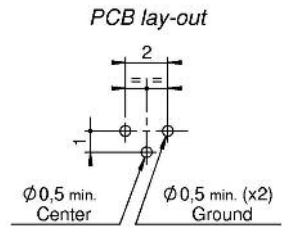
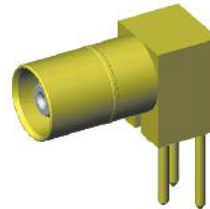
PCB LAYOUT 30-1400-xx



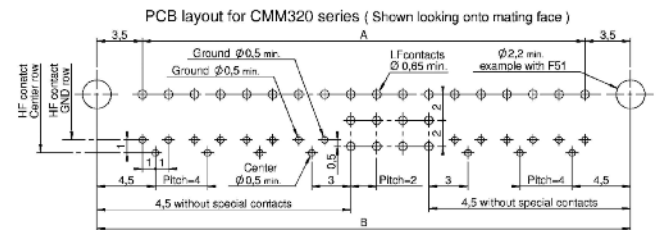
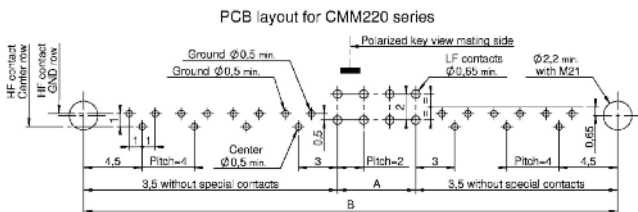
FEMALE 90° PCB P/N 30-2400-xx



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



PCB LAYOUT 30-2400-xx



$$A = nn - 2$$

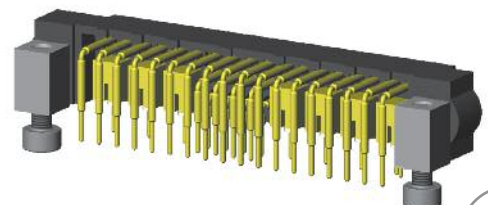
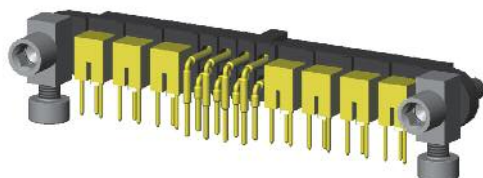
$$B = ((yy + zz) \times 4) + A + 7$$

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

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

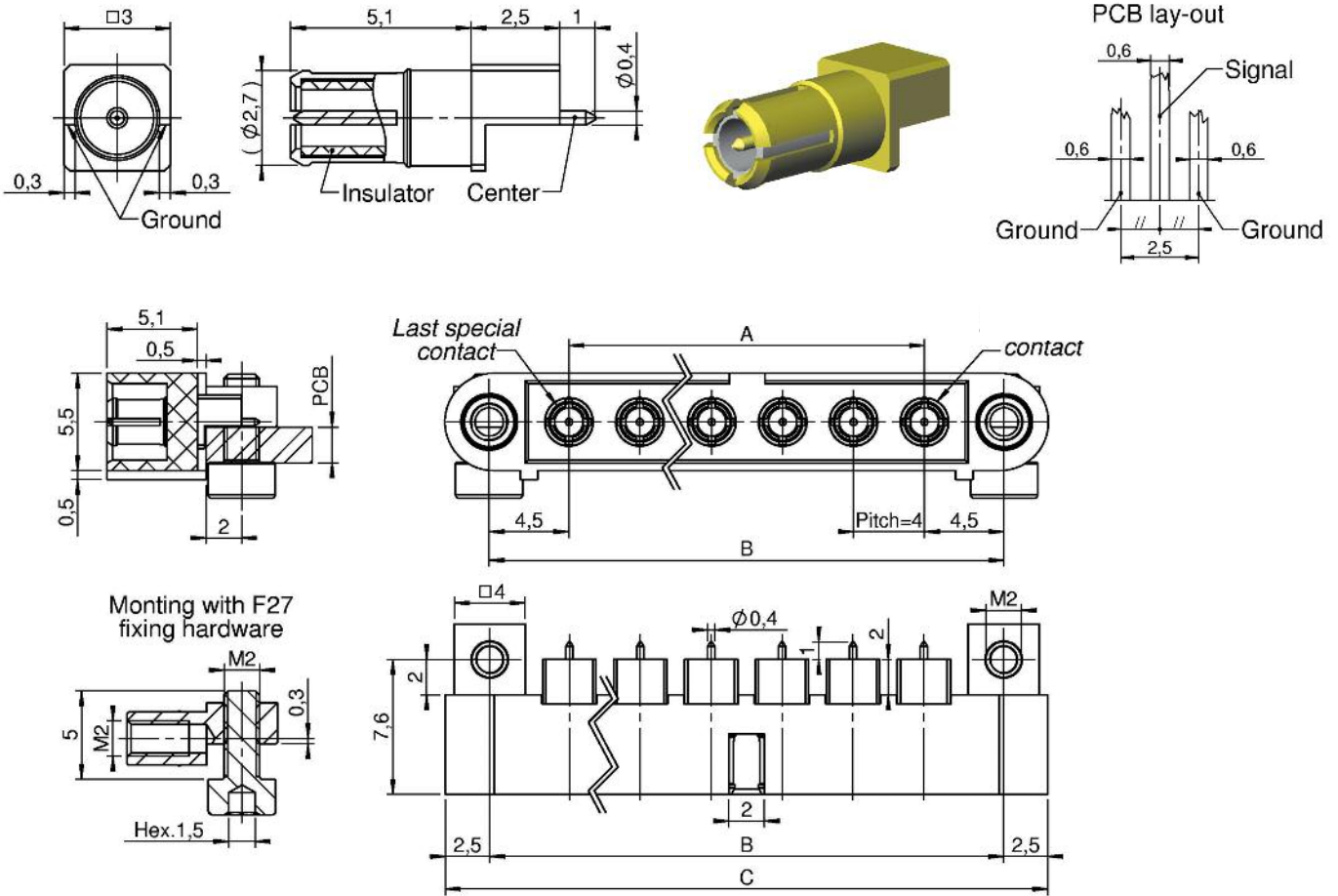
$$B = A + 9$$

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

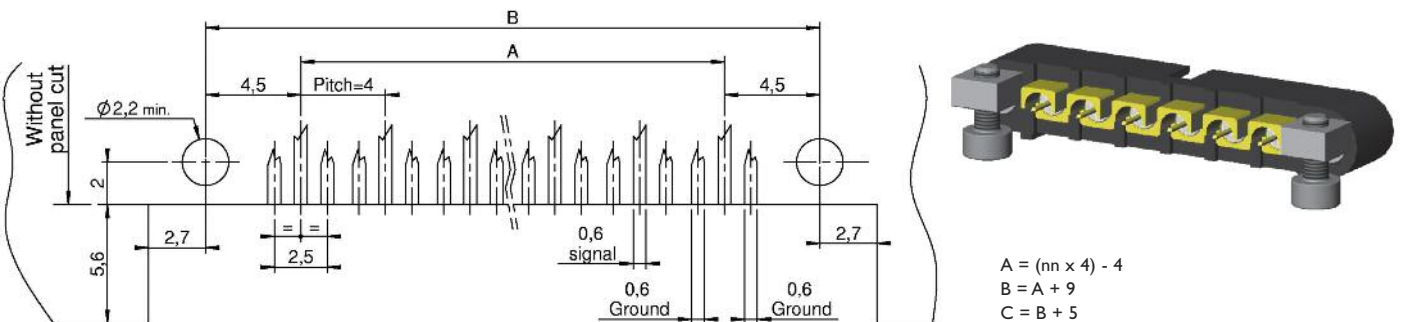


HF : High Frequency contact series 30

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



PCB LAYOUT 30-1500-CMM



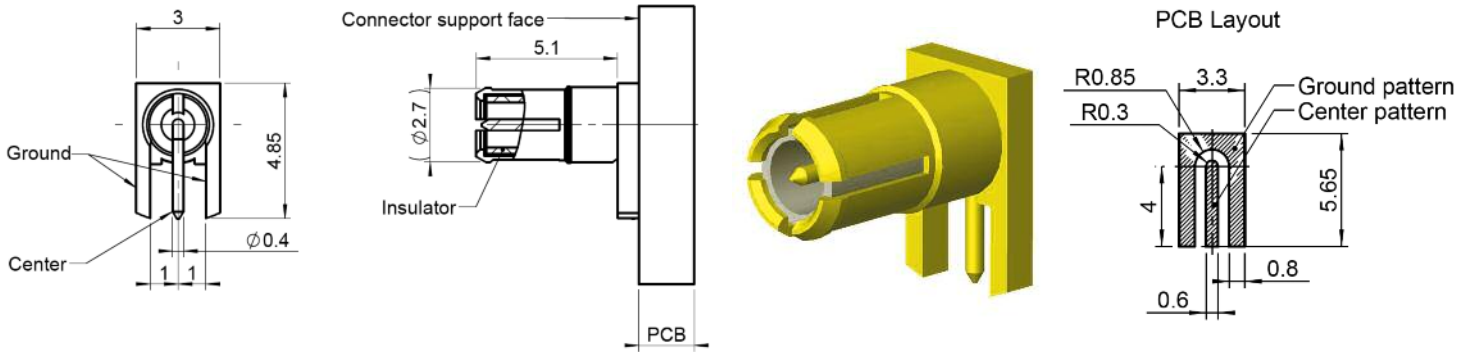
PART NUMBERING

Number of contacts

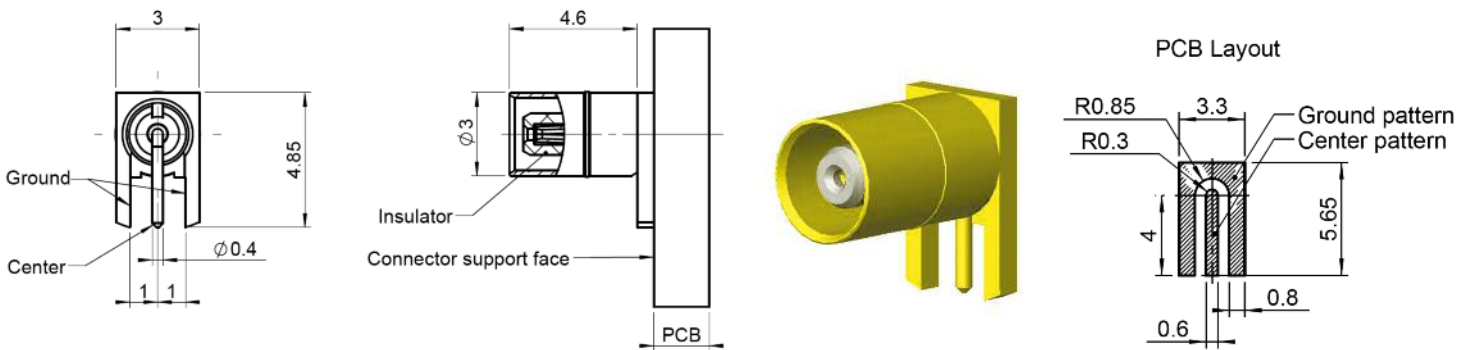
221D00 F27 -00 z z -1500CMM

HF : High Frequency contact series 30

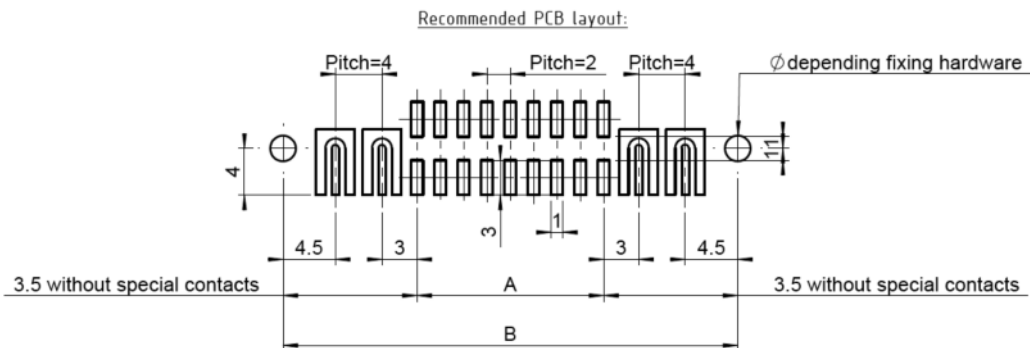
MALE STRAIGHT SMT FOR CMM 220 SERIES P/N 30-1600



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

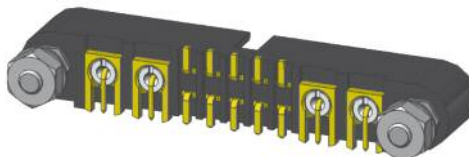


PCB LAYOUT 30-1600 & 30-2600



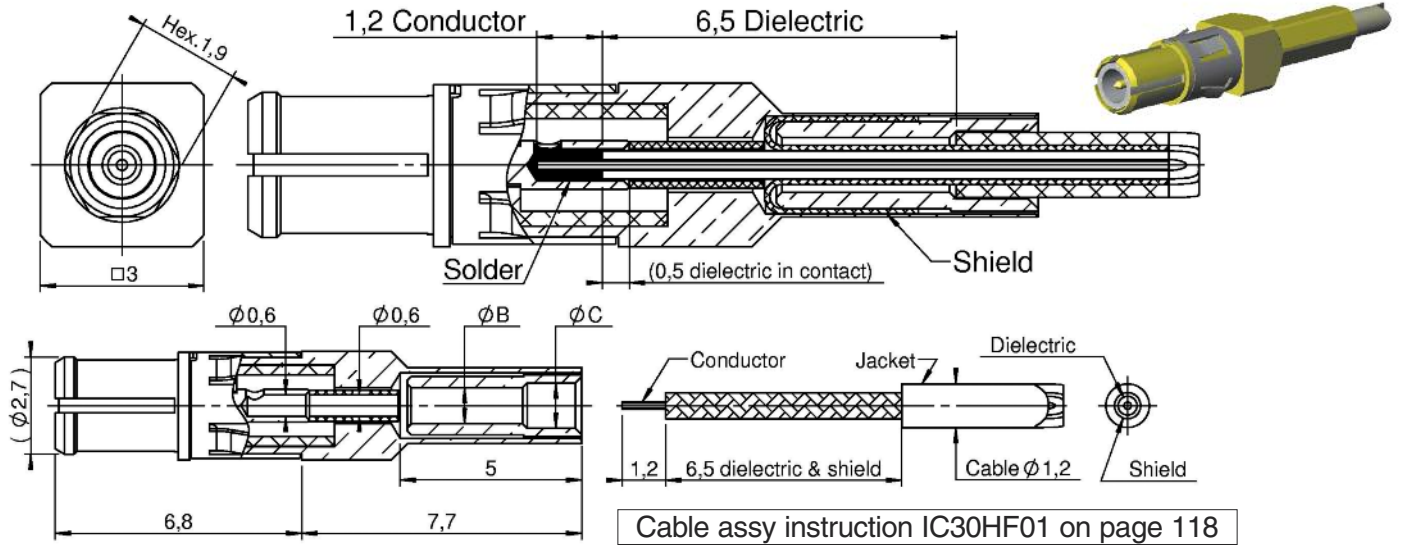
$$A = nn - 2$$

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

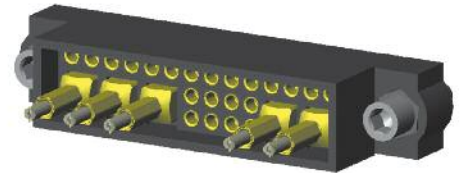


HF : High Frequency contact series 30

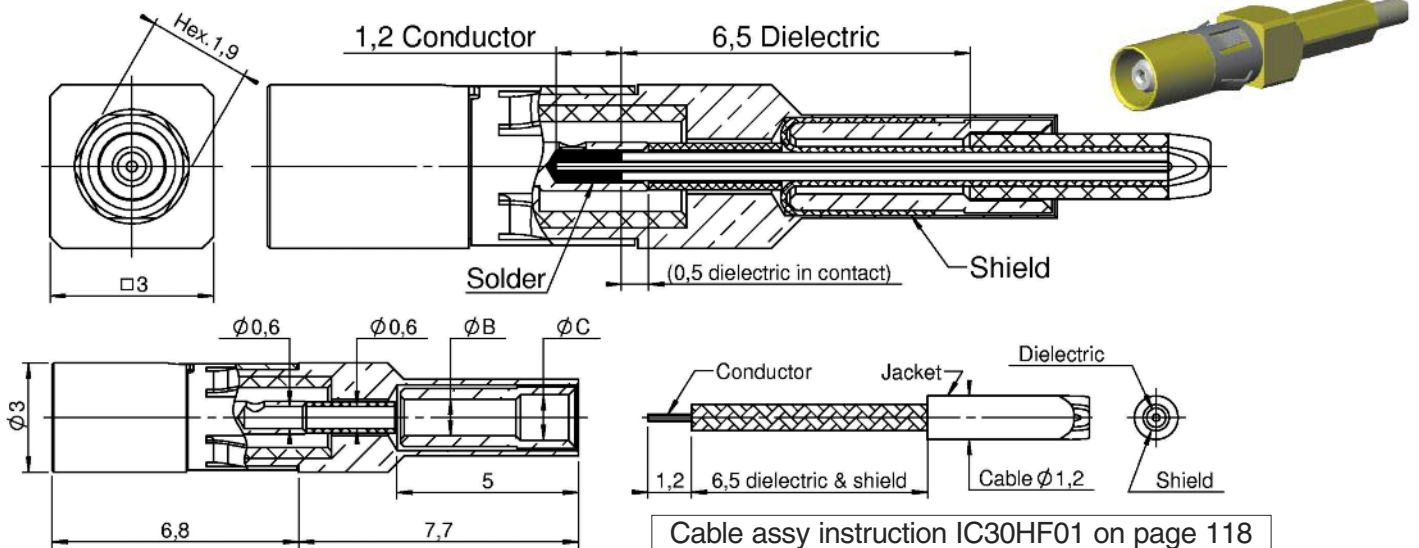
MALE STRAIGHT CRIMP ON CABLES Ø 1.2 P/N 30-1312-ZS



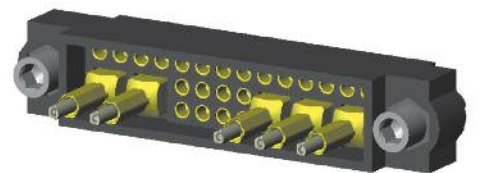
Loaded	Unloaded	ØB	ØC	
I312ZS01	30-1312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
I312ZS02	30-1312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50



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

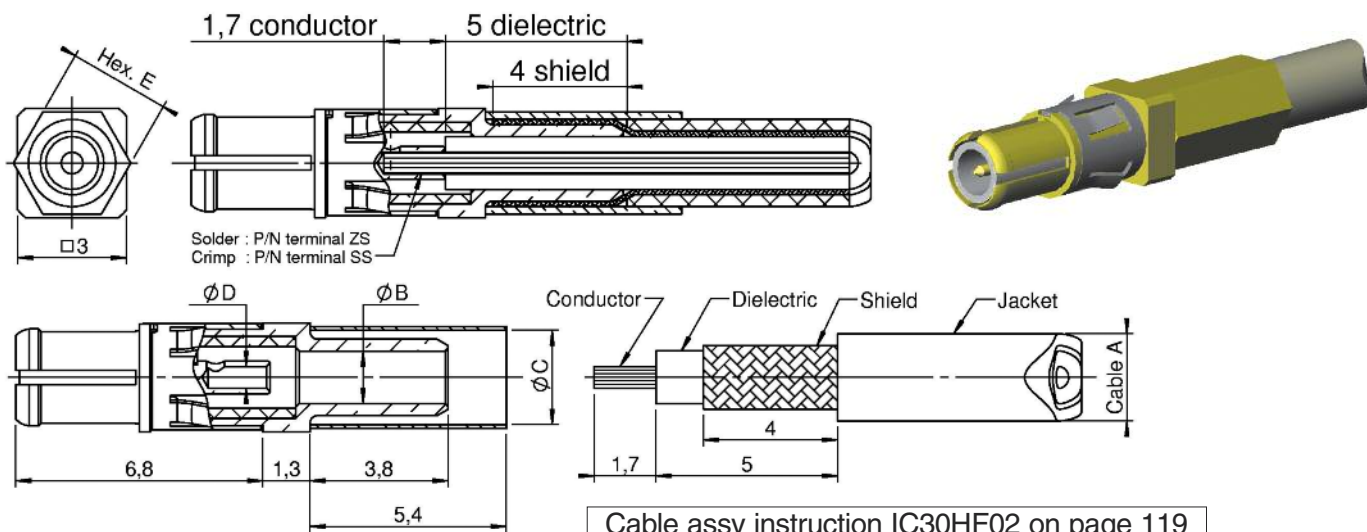


Loaded	Unloaded	ØB	ØC	
2312ZS01	30-2312-ZS-01	1 mm	1,25 mm	For cable type NEXANS 50VMTX
2312ZS02	30-2312-ZS-02	0,85 mm	1,15 mm	For cable type AXON SM50

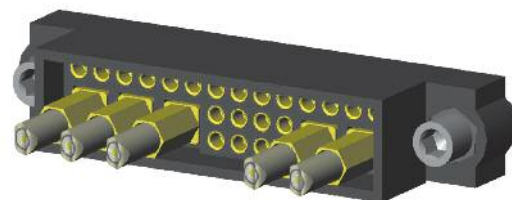


HF : High Frequency contact series 30

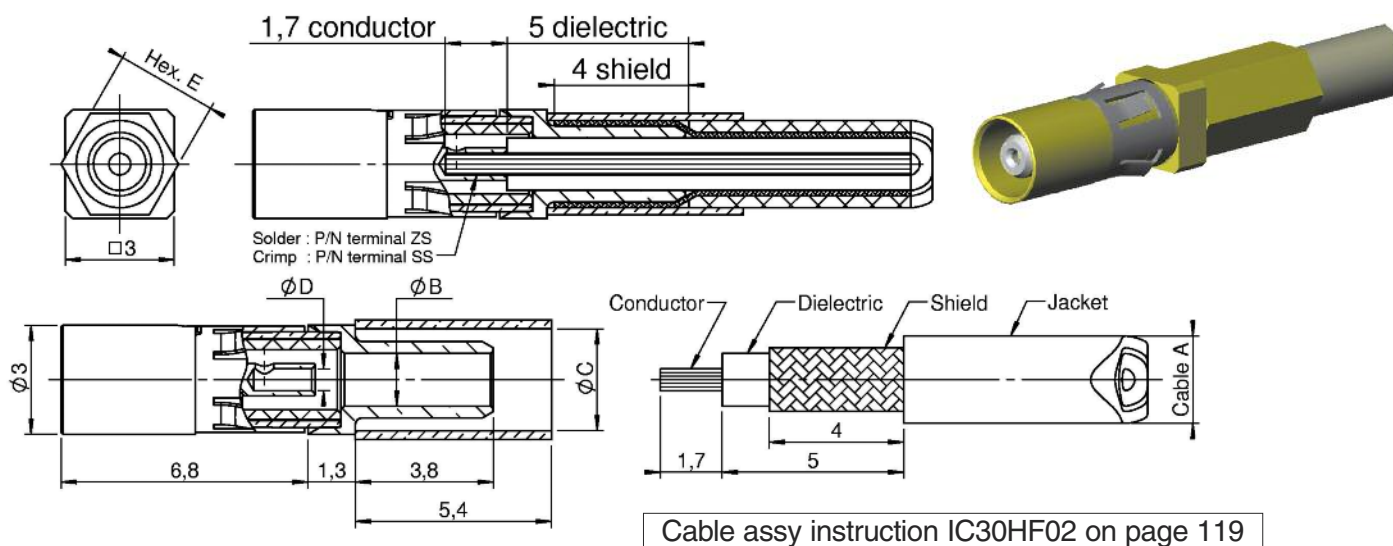
MALE STRAIGHT CRIMP ON CABLE P/N 30-13xx-SS & 30-13xx-ZS



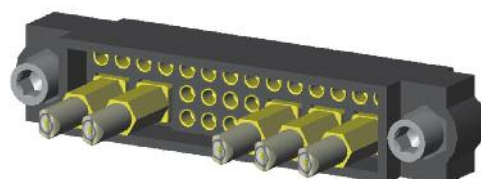
Loaded	Unloaded	Cable A	ØB	ØC	ØD	Hex. E
I320SS	30-1320-SS	Ø 2,0	1 mm	2,2 mm	0,5 mm	2,4 on flat
I324SS	30-1324-SS	Ø 2,4	1,5 mm	2,8 mm	0,6 mm	2,8 on flat
I326SS	30-1326-SS	Ø 2,7	1,7 mm	2,8 mm	0,6 mm	2,8 on flat



FEMALE STRAIGHT CRIMP ON CABLE P/N 30-23xx-SS & 30-23xx-ZS

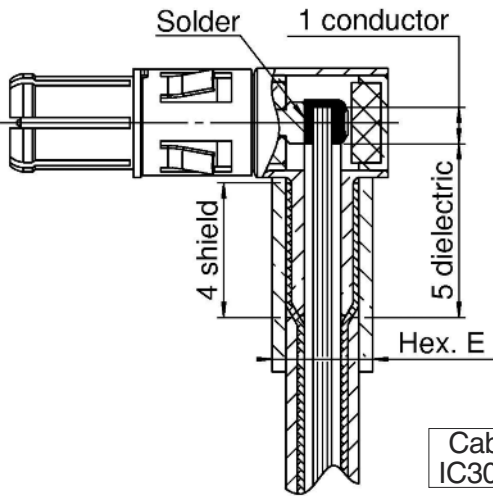


Loaded	Unloaded	Cable A	ØB	ØC	ØD	Hex. E
2320SS	30-2320-SS	Ø 2,0	1 mm	2,2 mm	0,5 mm	2,4 on flat
2324SS	30-2324-SS	Ø 2,4	1,5 mm	2,8 mm	0,6 mm	2,8 on flat
2326SS	30-2326-SS	Ø 2,7	1,7 mm	2,8 mm	0,6 mm	2,8 on flat



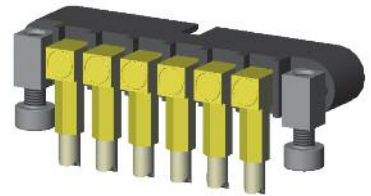
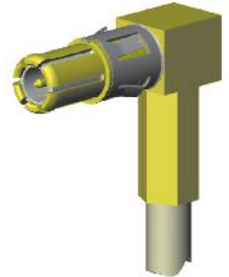
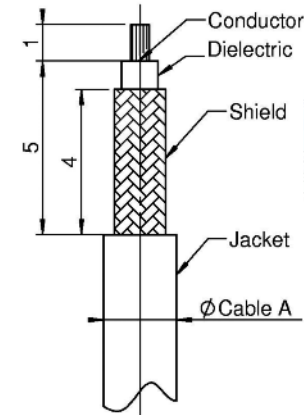
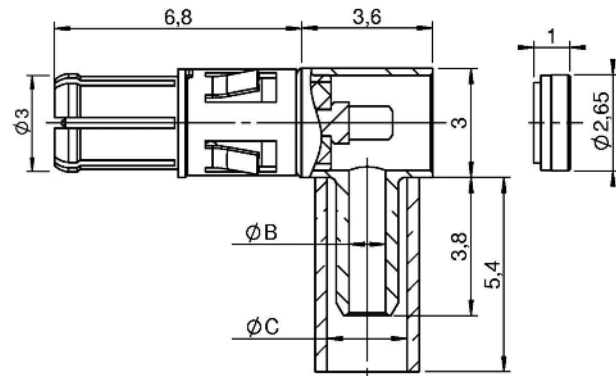
HF : High Frequency contact series 30

MALE 90° CRIMP ON CABLE P/N 30-14xx-Z5

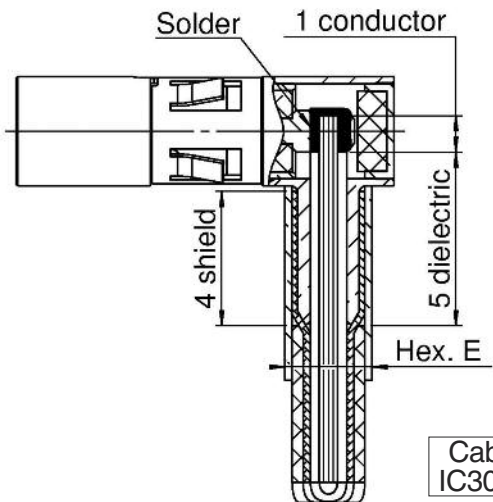


Cable assy instruction IC30HF03 on page 120

Loaded	Unloaded	Cable A	ØB	ØC	Hex. E
I412ZS	30-1412-ZS	Ø 1,2	0,7 mm	1,3 mm	1,9 on flat
I420ZS	30-1420-ZS	Ø 2,0	1 mm	2,2 mm	2,4 on flat
I424ZS	30-1424-ZS	Ø 2,4	1,5 mm	2,8 mm	2,8 on flat
I426ZS	30-1426-ZS	Ø 2,7	1,7 mm	2,8 mm	2,8 on flat

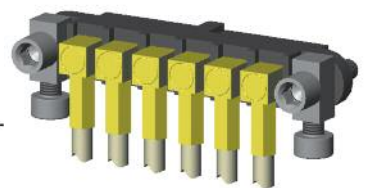
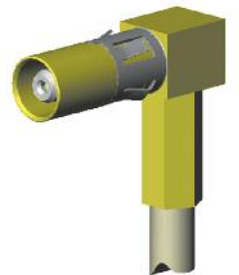
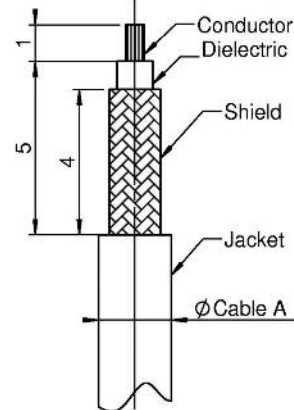
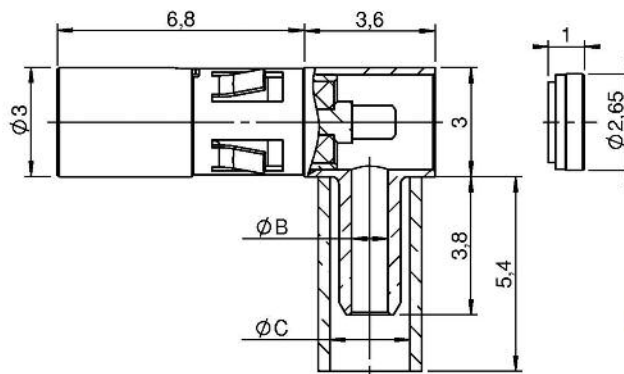


FEMALE 90° CRIMP ON CABLE P/N 30-24xx-Z5



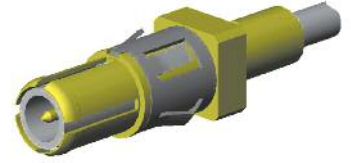
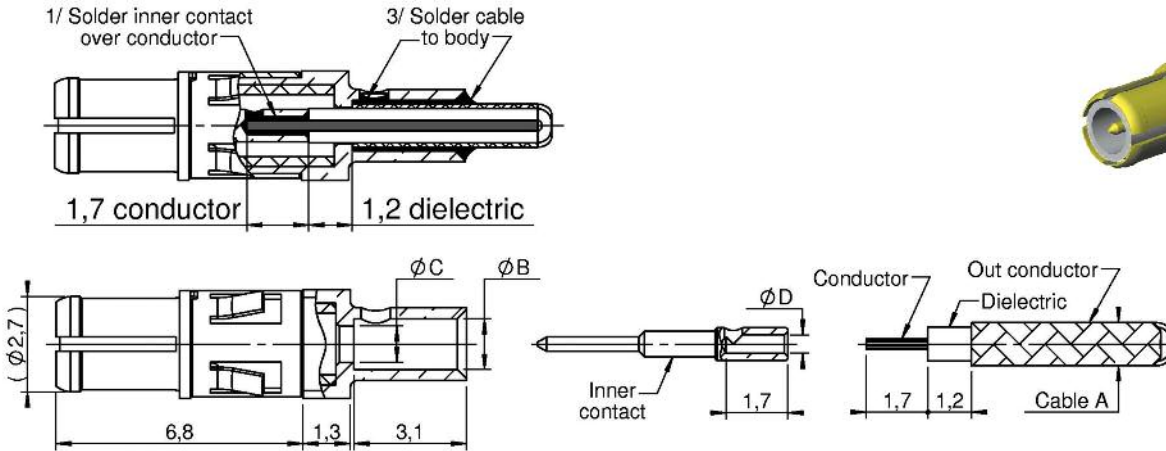
Cable assy instruction IC30HF03 on page 120

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

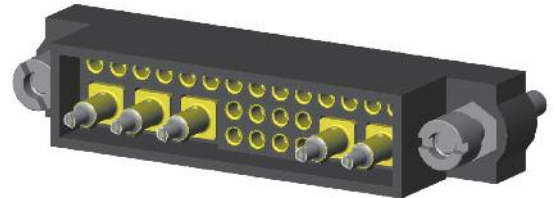
MALE STRAIGHT ON CABLE SEMI-RIGID P/N 30-13xx-ZZ



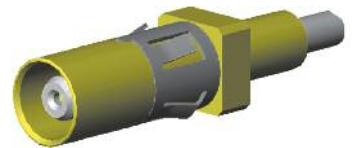
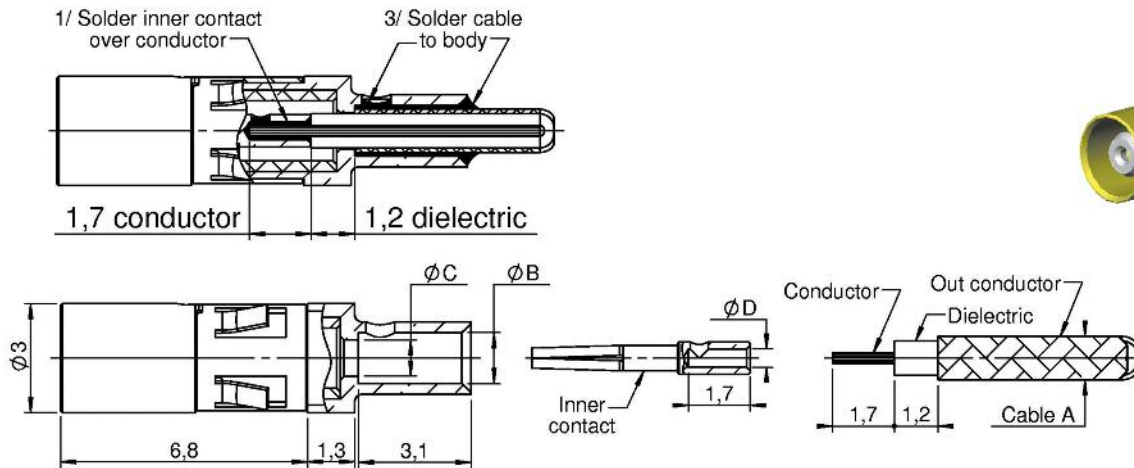
MONTING PROCESS :

- 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



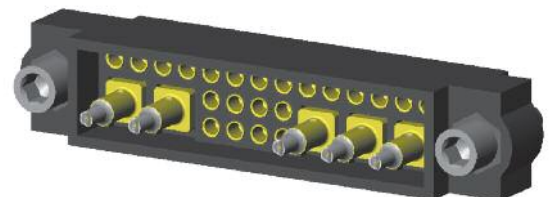
FEMALE STRAIGHT ON CABLE SEMI-RIGID P/N 30-23xx-ZZ



MONTING PROCESS :

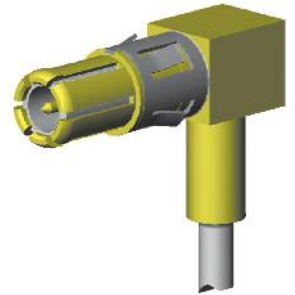
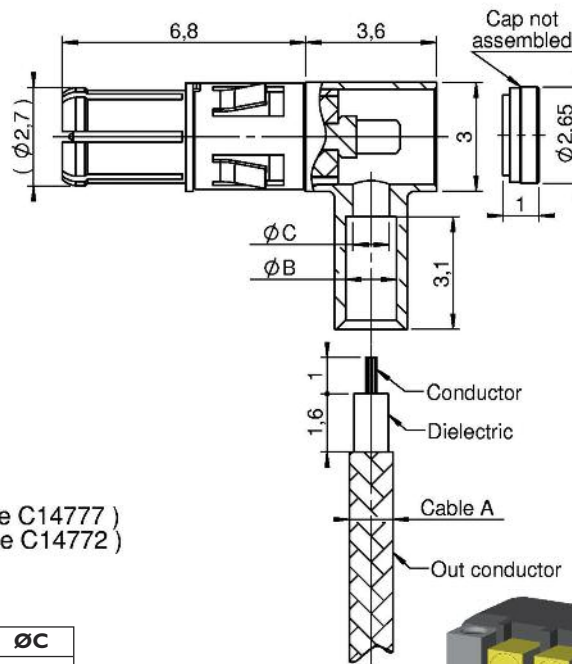
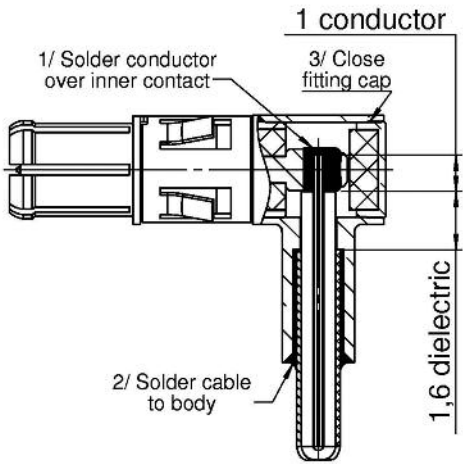
- 1/ Solder inner contact over conductor.
- 2/ Push cable with inner contact in body.
- 3/ Solder cable to body. (Tooling reference C14777)

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

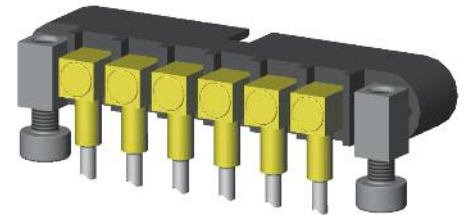
MALE 90° ON CABLE SEMI-RIGID P/N 30-14xx-ZZ



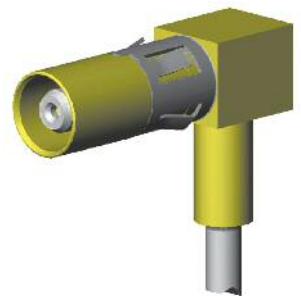
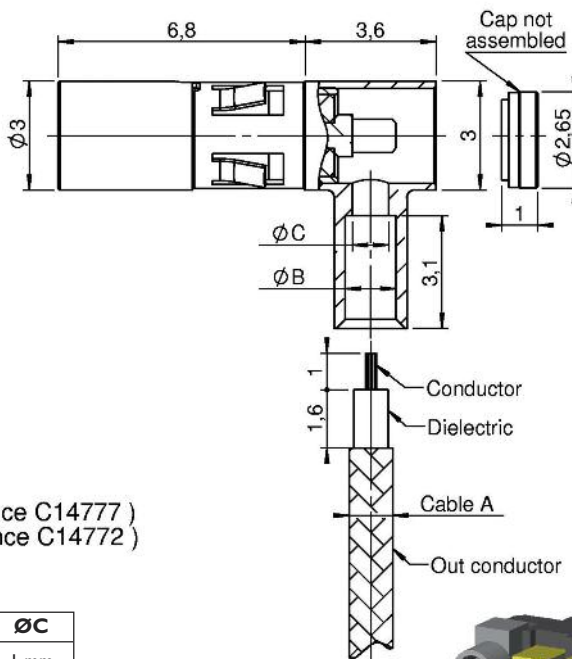
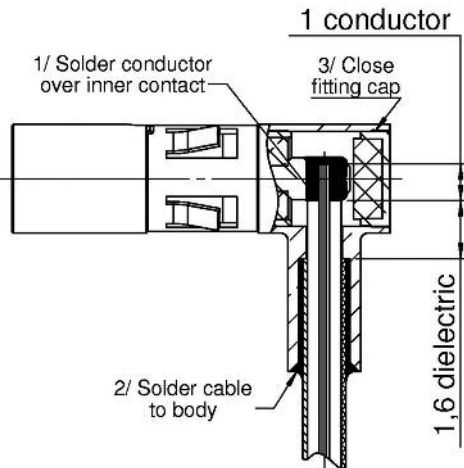
MONTING PROCESS :

- 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



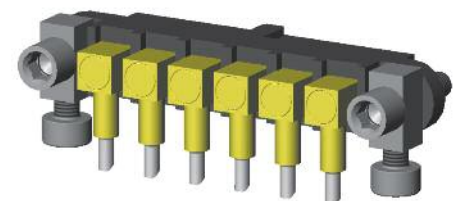
FEMALE 90° ON CABLE SEMI-RIGID P/N 30-24xx-ZZ



MONTING PROCESS :

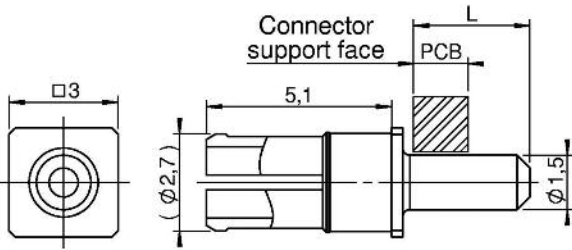
- 1/ Solder conductor over inner contact.
- 2/ Solder cable to body. (Tooling reference C14777)
- 3/ Assembly the cap to body (Tooling reference C14772)

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

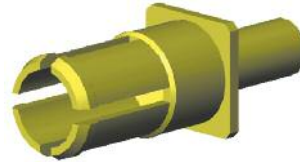


HP : High Power contact series 30

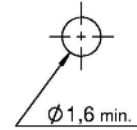
MALE STRAIGHT ON PCB P/N 30-3300-XX



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

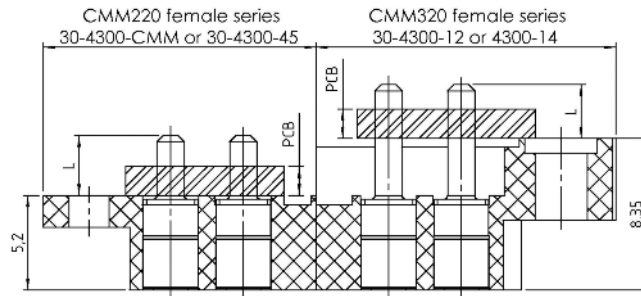
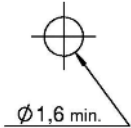


PCB lay-out

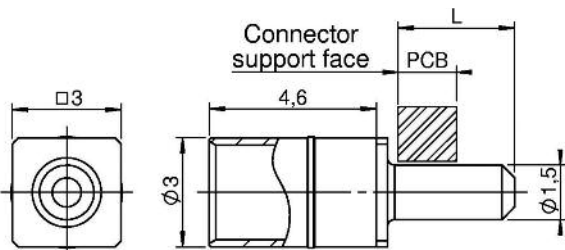
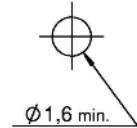


FEMALE STRAIGHT ON PCB P/N 30-4300-XX

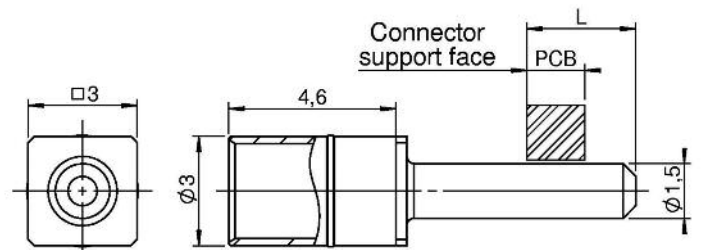
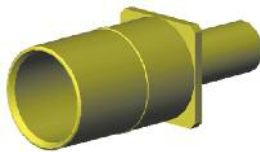
PCB lay-out



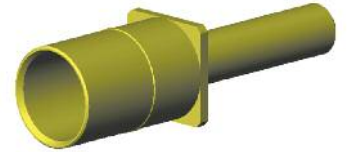
PCB lay-out



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

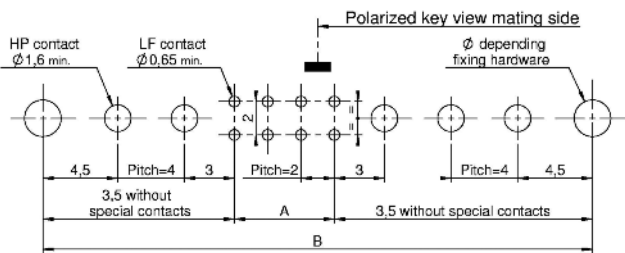


Loaded	Length L
430012	3 mm
430014	4,5 mm



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

PCB lay-out 220 series



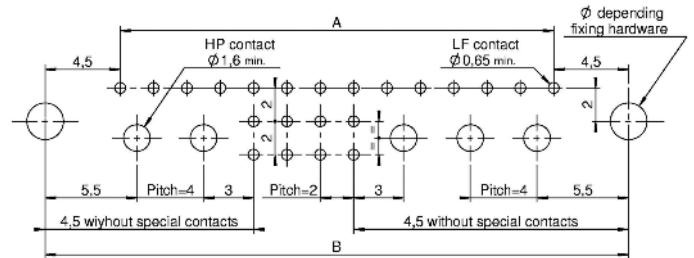
$$A = nn - 2$$

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

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



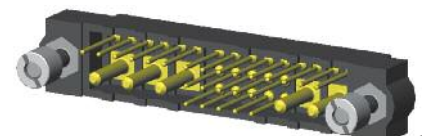
PCB lay-out for CMM320 series (Shown looking onto mating face)



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

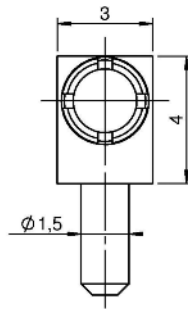
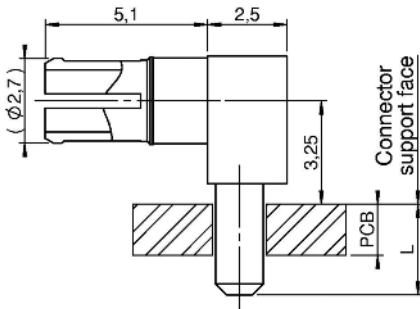
$$B = A + 9$$

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

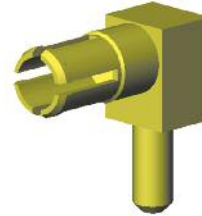


HP : High Power contact series 30

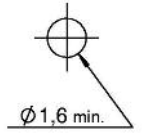
MALE 90° PCB P/N 30-3400-XX



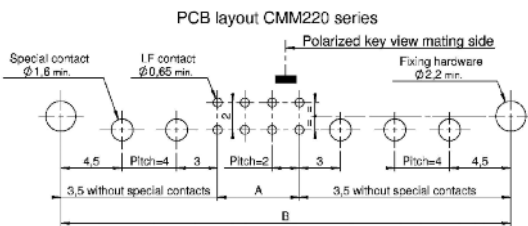
Loaded	Length L
3400CMM	3 mm
340045	4,5 mm



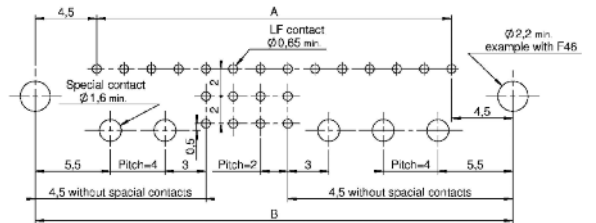
PCB lay-out



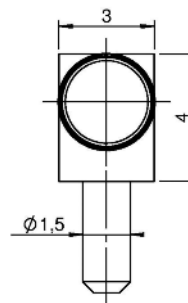
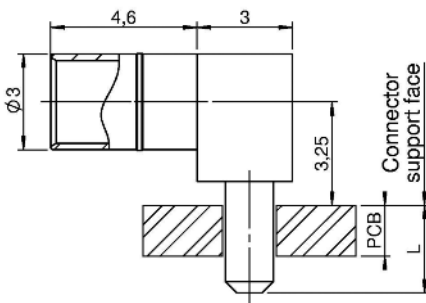
PCB LAYOUT 30-3400-XX



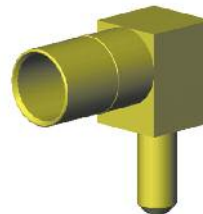
PCB layout for CMM320 series (Shown looking onto mating face)



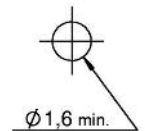
FEMALE 90° PCB P/N 30-4400-XX



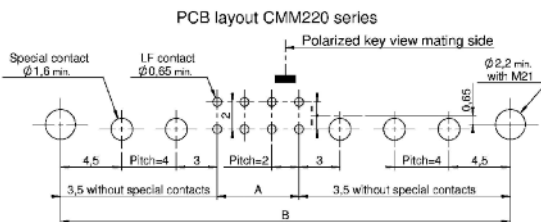
Loaded	Length L
4400CMM	3 mm
440045	4,5 mm



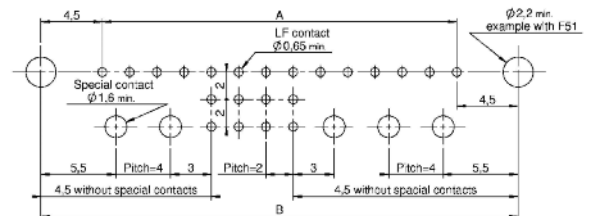
PCB lay-out



PCB LAYOUT 30-4400-XX



PCB layout for CMM320 series (Shown looking onto mating face)



$$A = nn - 2$$

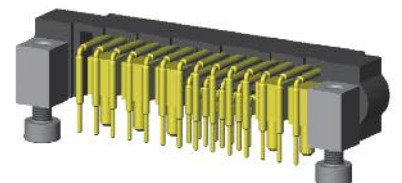
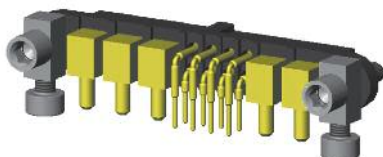
$$B = \{(yy + zz) \times 4\} + A + 7$$

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

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

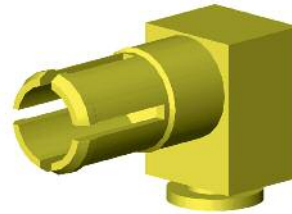
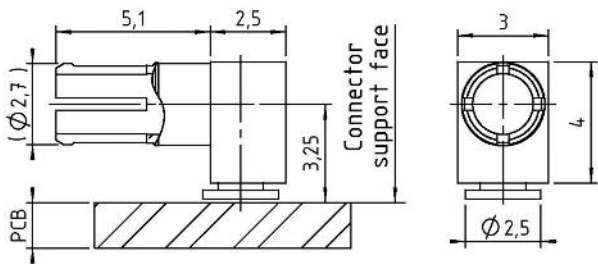
$$B = A + 9$$

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

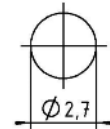


HP : High Power contact series 30

MALE 90° SMT 30-3500

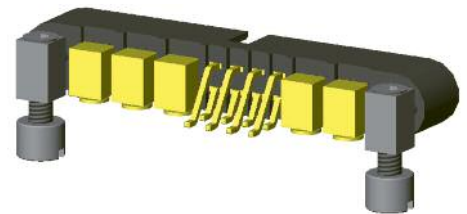
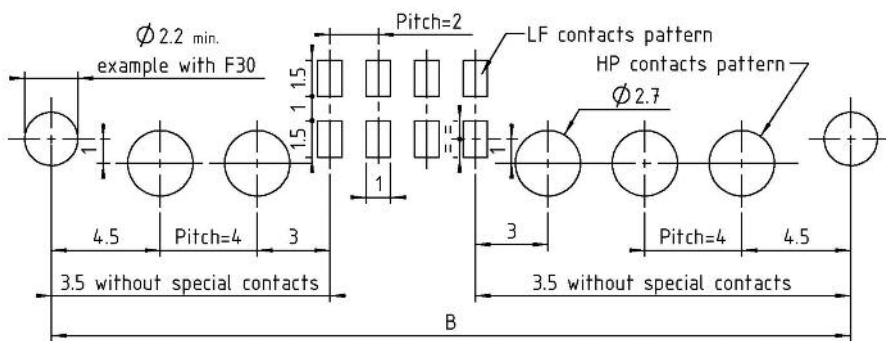


PCB layout

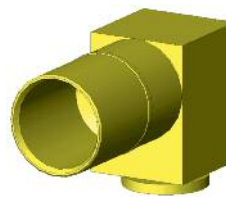
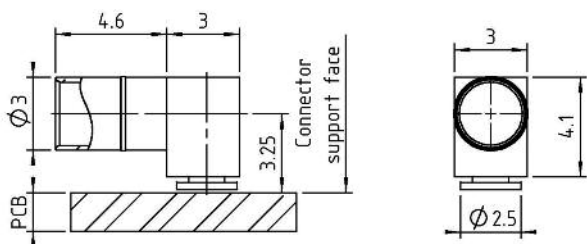


PCB LAYOUT 30-3500

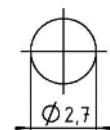
PCB layout for CMM220 male series



FEMALE 90° SMT 30-4500

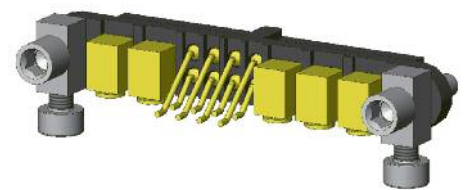
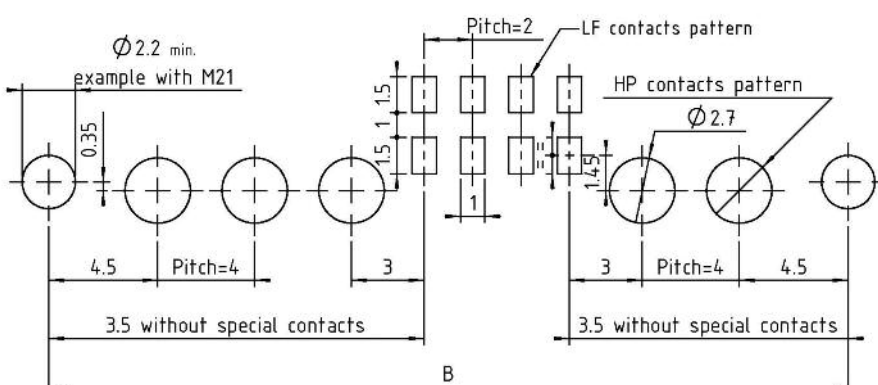


PCB layout



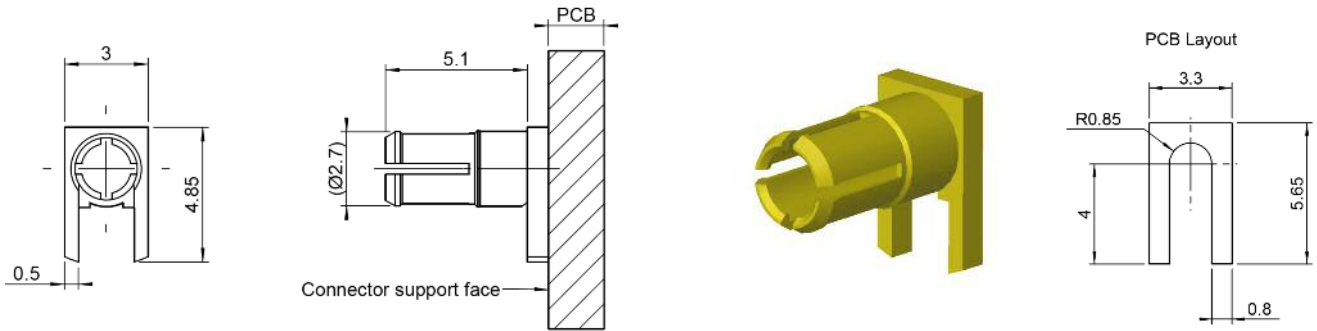
PCB LAYOUT 30-4500

PCB layout for CMM220 female series

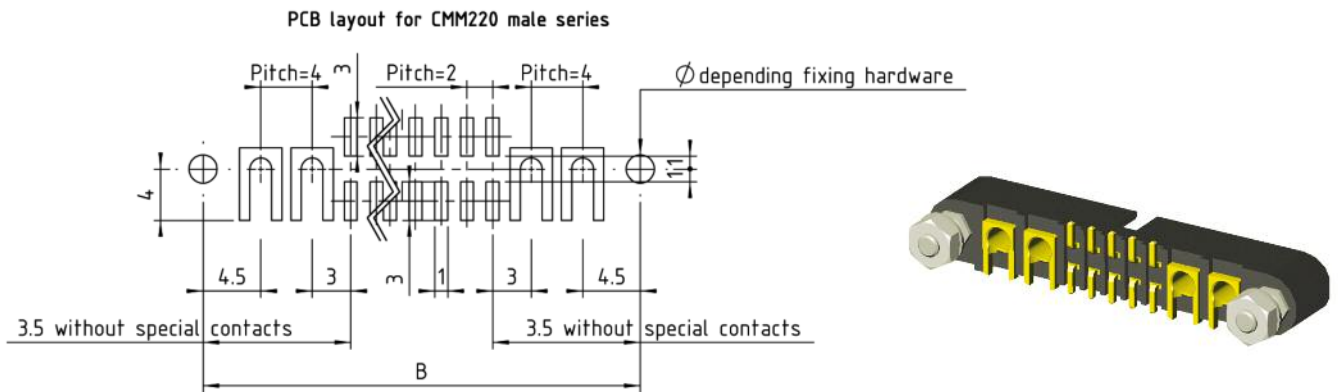


HP : High Power contact series 30

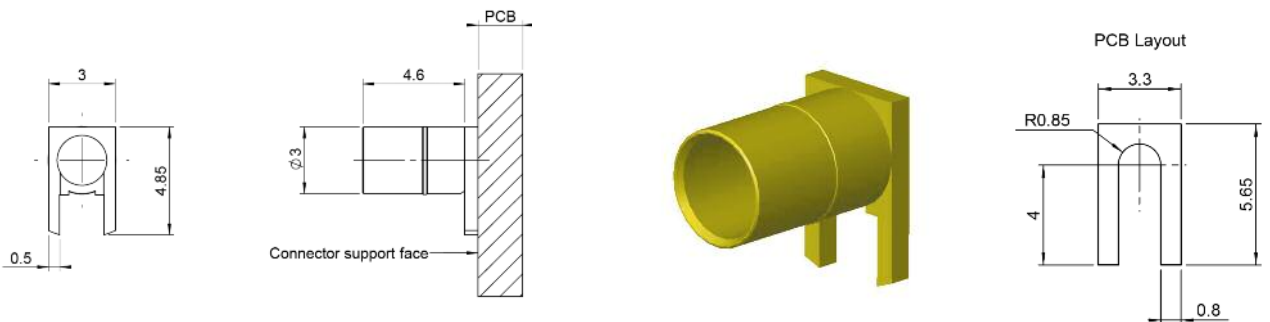
MALE STRAIGHT SMT P/N 30-3600



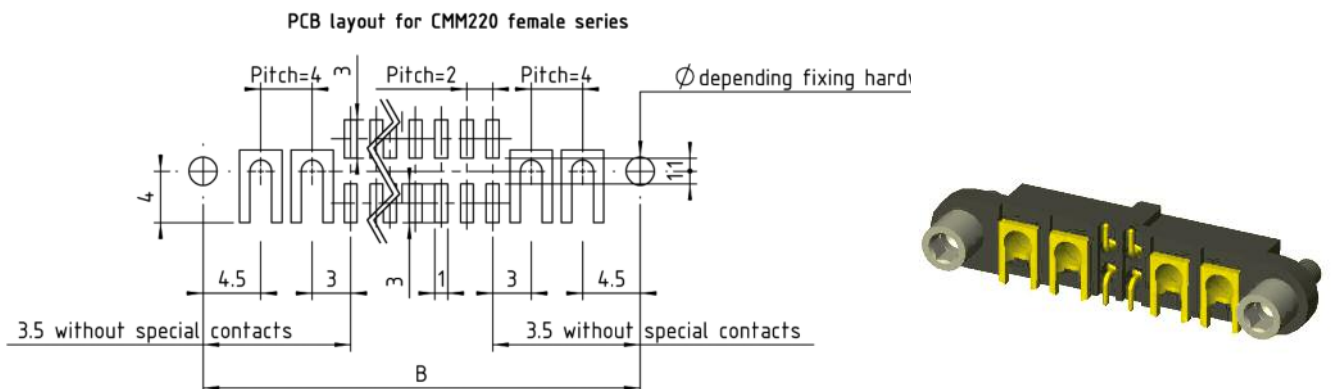
PCB LAYOUT 30-3600



FEMALE STRAIGHT SMT P/N 30-4600

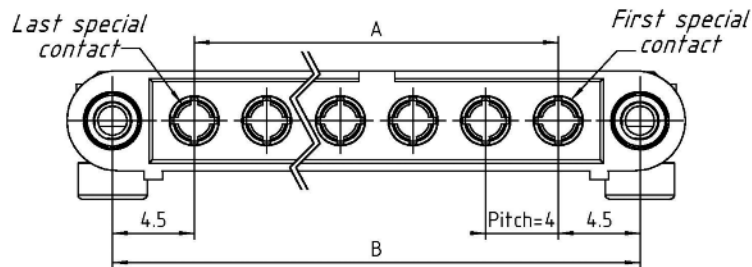
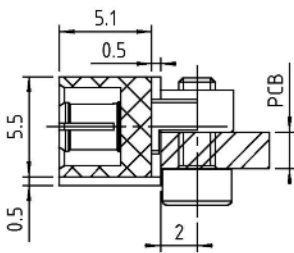
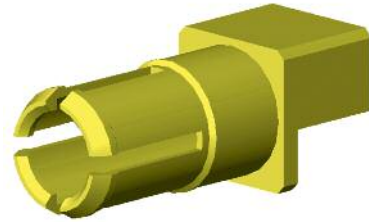
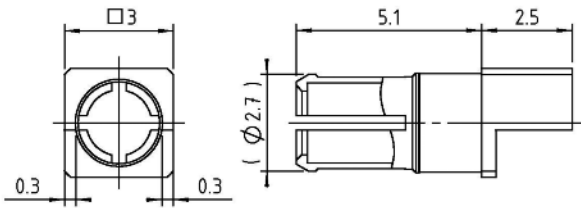


PCB LAYOUT 30-4600

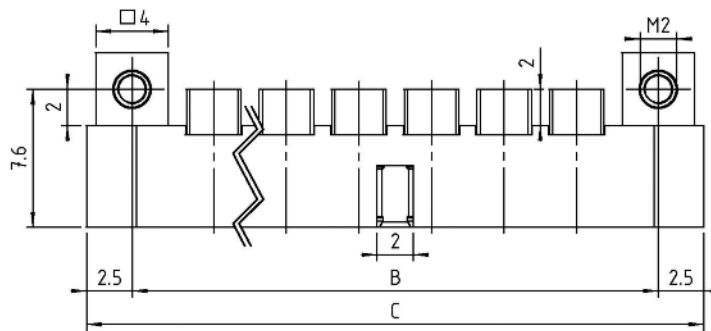
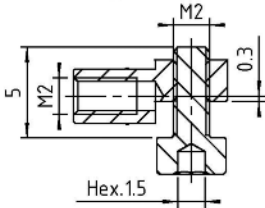


HP : High Power contact series 30

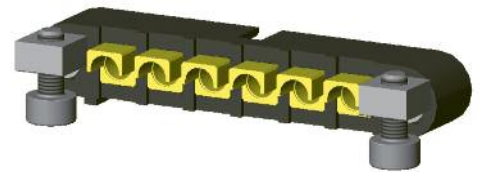
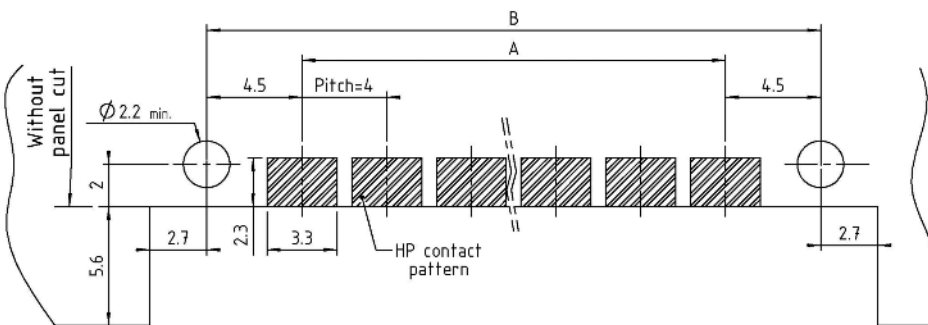
MALE 90° SMT CARD EDGE (WITHOUT LF CONTACTS) 30-3500-CMM



Monting with F27 fixing hardware



PCB LAYOUT 30-3500-CMM

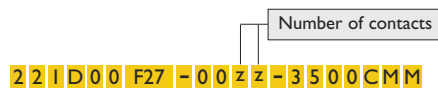


$$A = (nn \times 4) - 4$$

$$B = A + 9$$

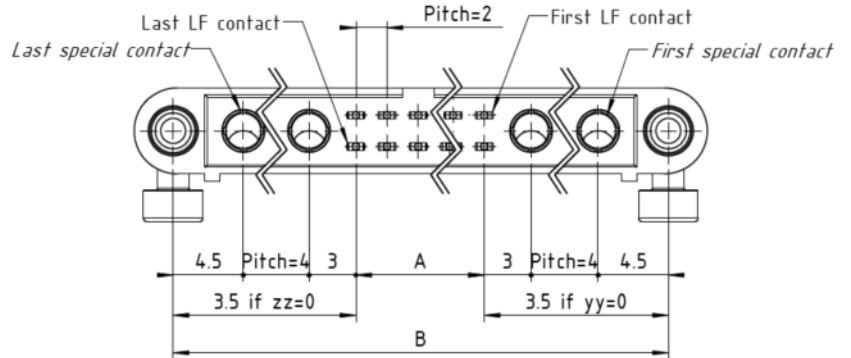
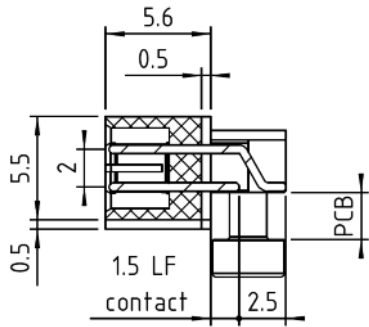
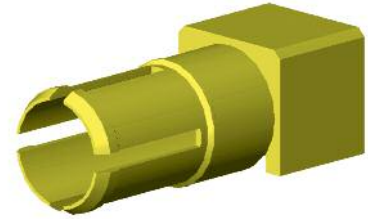
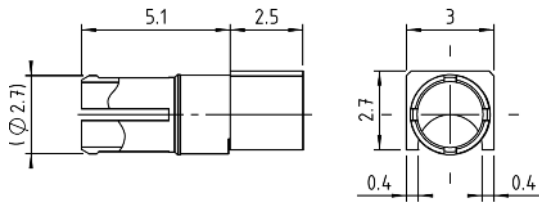
$$C = B + 5$$

PART NUMBERING

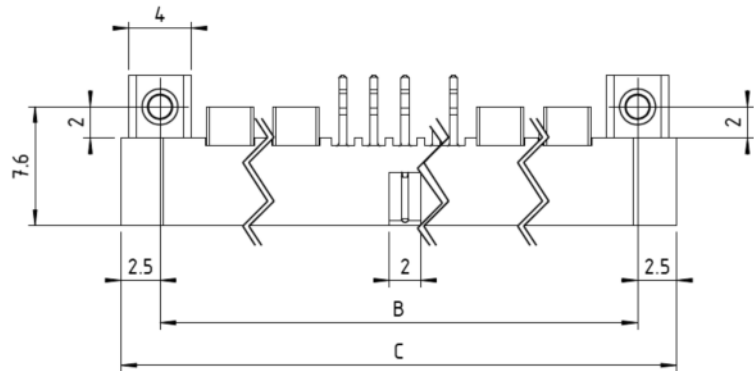
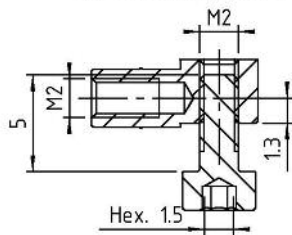


HP : High Power contact series 30

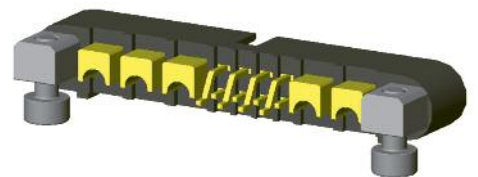
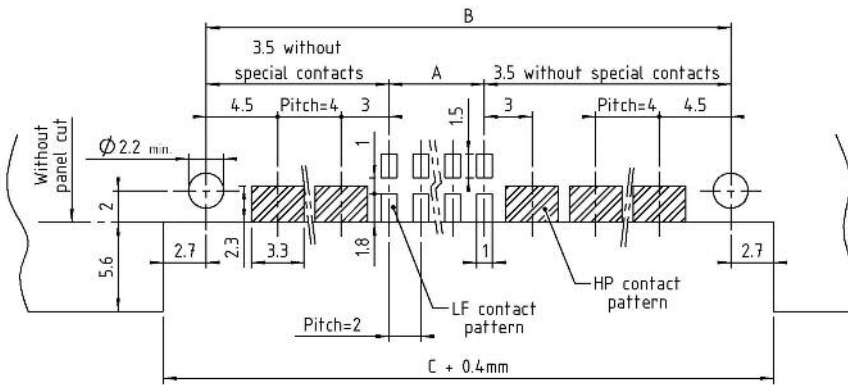
MALE 90° SMT CARD EDGE 30-3500-12 (FOR CMM 220 SERIES)



Monting with F34 fixing hardware for CMM220 serie



PCB LAYOUT 30-3500-12



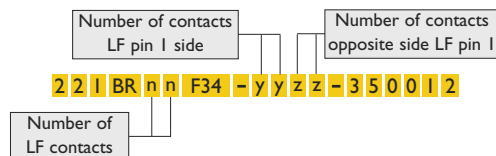
$$A = nn - 2$$

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

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

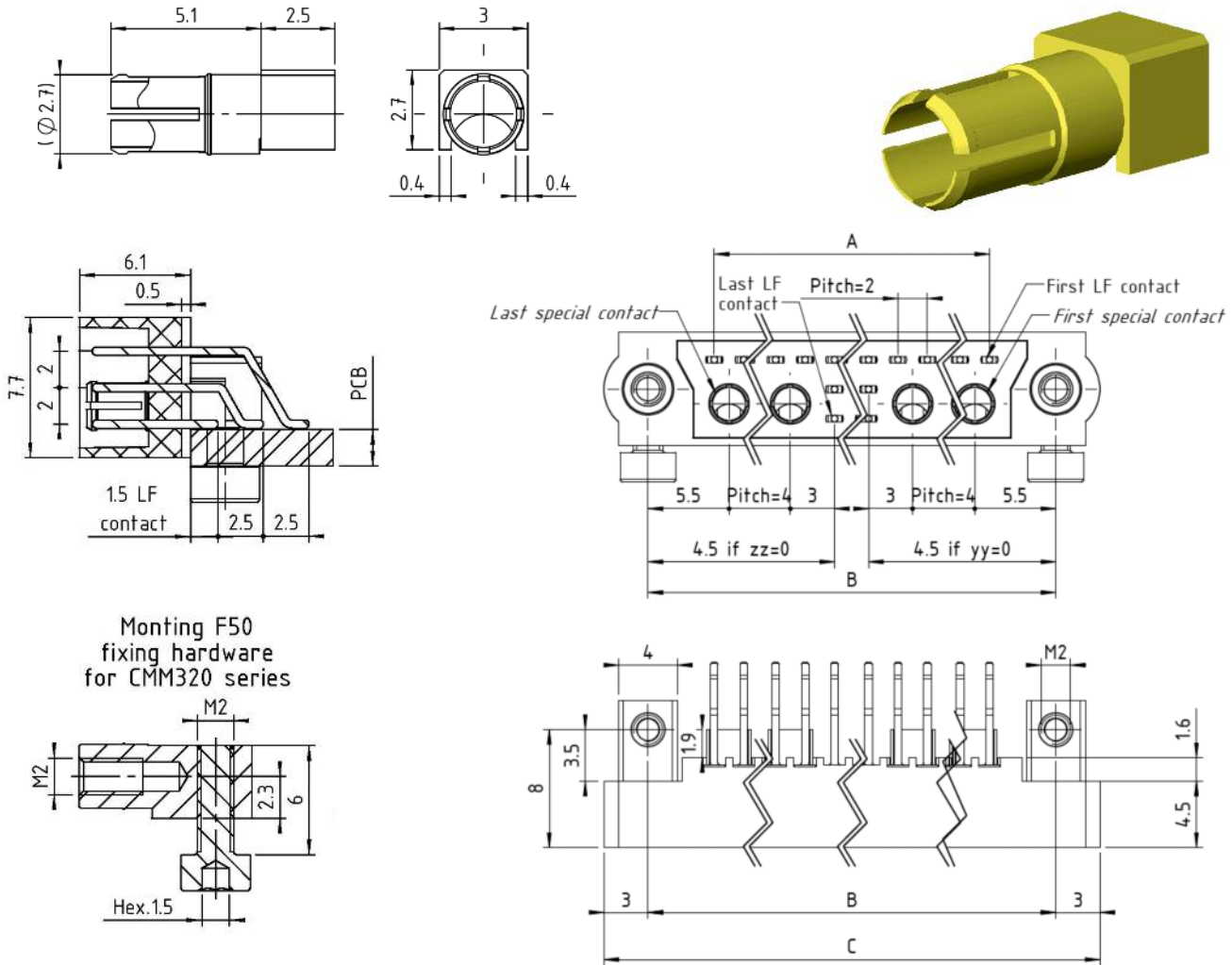
$$C = B + 5$$

PART NUMBERING

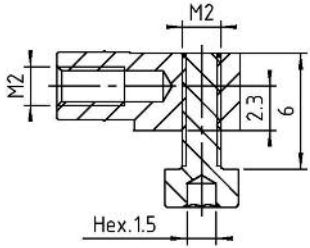


HP : High Power contact series 30

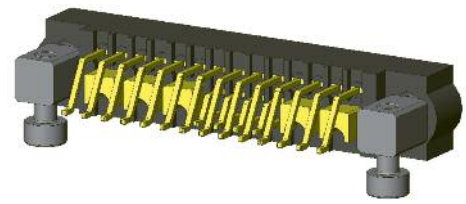
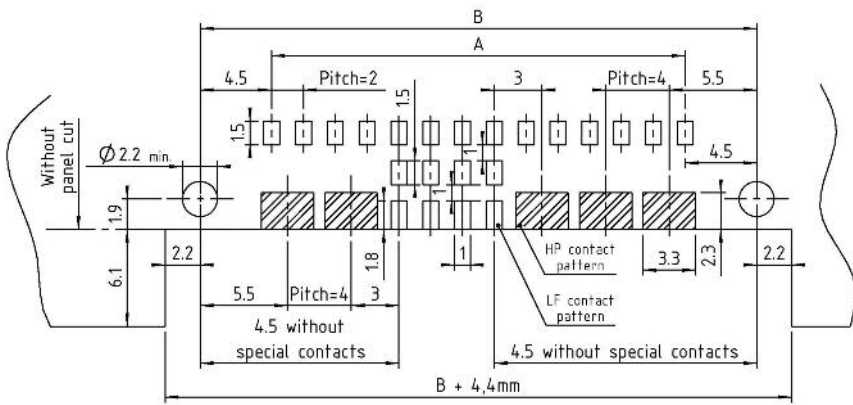
MALE 90° SMT CARD EDGE 30-3500-12 (FOR CMM 320 SERIES)



Monting F50 fixing hardware for CMM320 series



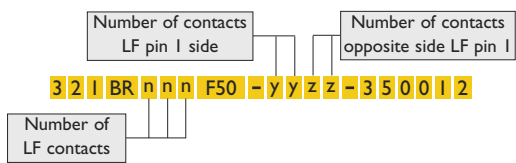
PCB LAYOUT 30-3500-12



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

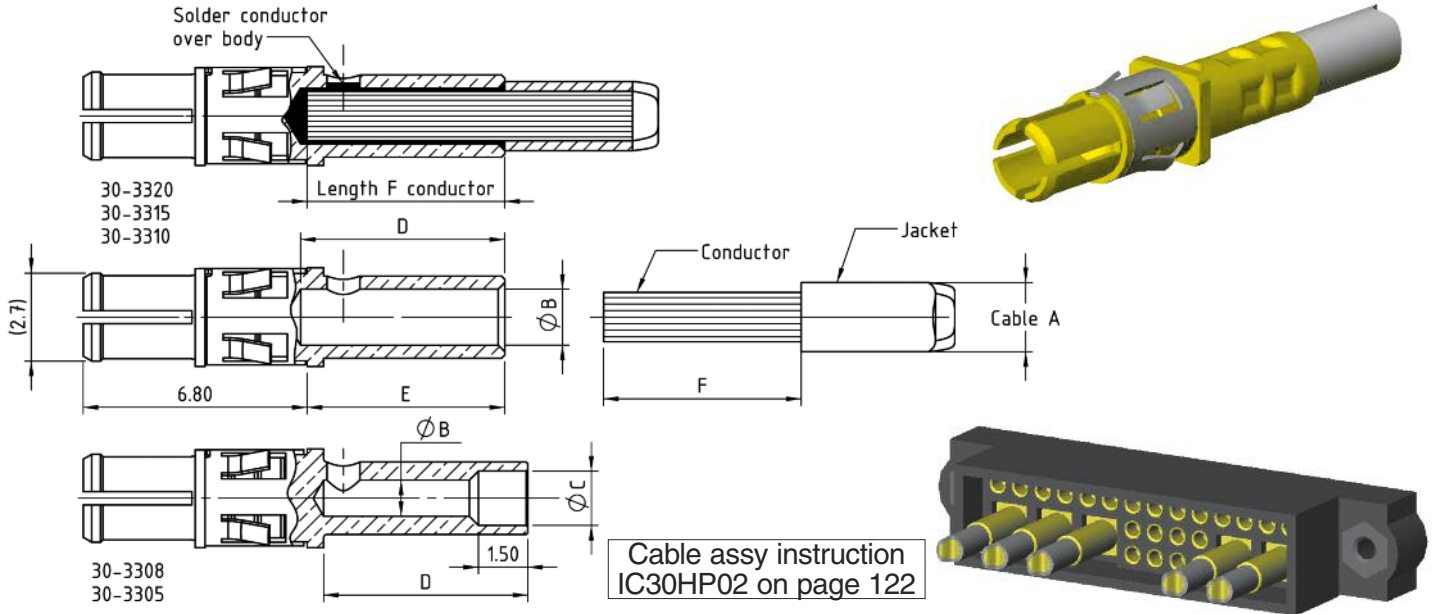
B = A + 9
 B max. = 87
 C = A + 15

PART NUMBERING



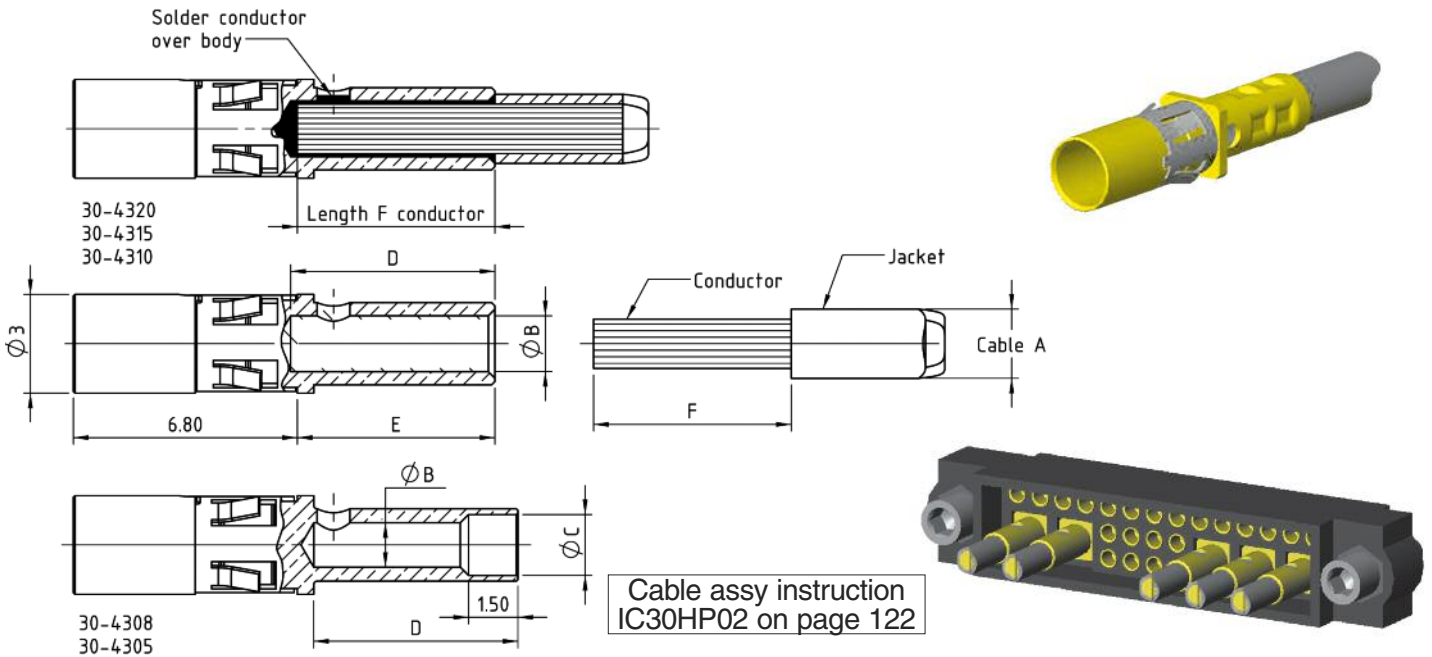
HP : High Power contact series 30

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



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)



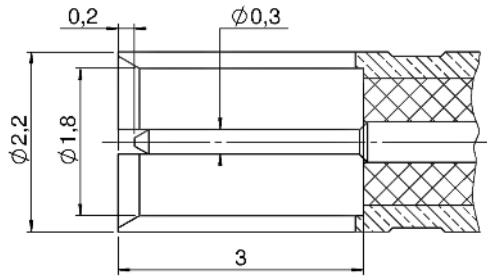
Loaded	Unloaded	Ampere	Cable A				ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimp by HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16	AWG 14								
4305	30-4305	5A	X				1,1 mm	1,65 mm	6,2 mm	6,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4308	30-4308	8A		X			1,35 mm	1,85 mm	6,2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

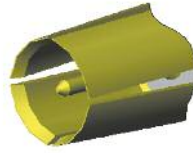
HP : High Power contacts series 22

FOR CMM 340

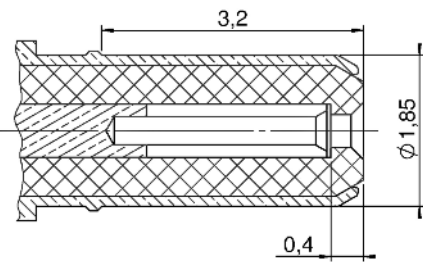
INSERTION



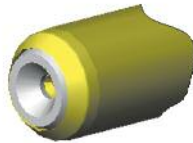
HF female contact insertion



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
"..."

22-00-00

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

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

22-3-Z-75

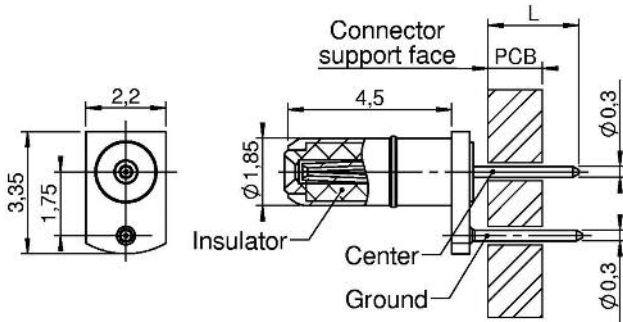
Special contacts :
1 = male HF
2 = female HF
3 = male HP
4 = female HP

Use these 2 digits only with 75 Ohm cables

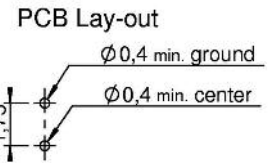
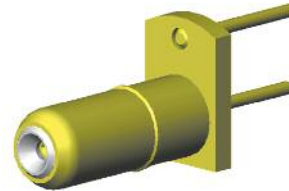
Contact termination:
10 = for HP 10A
12 = for HF cable 1.2mm
20 = for HF cable 2mm

HF : High Frequency contacts series 22

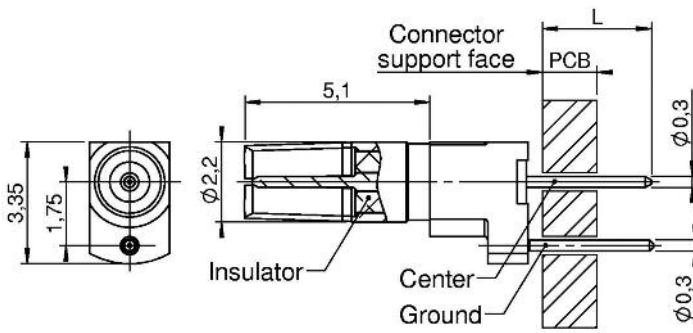
MALE STRAIGHT ON PCB P/N 22-1300-xx



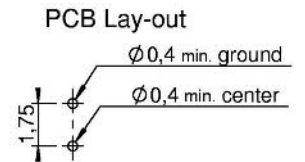
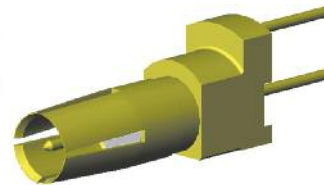
Loaded	Length L
I30012	3 mm
I30014	4,5 mm



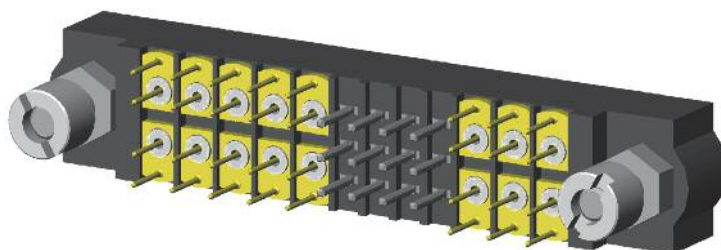
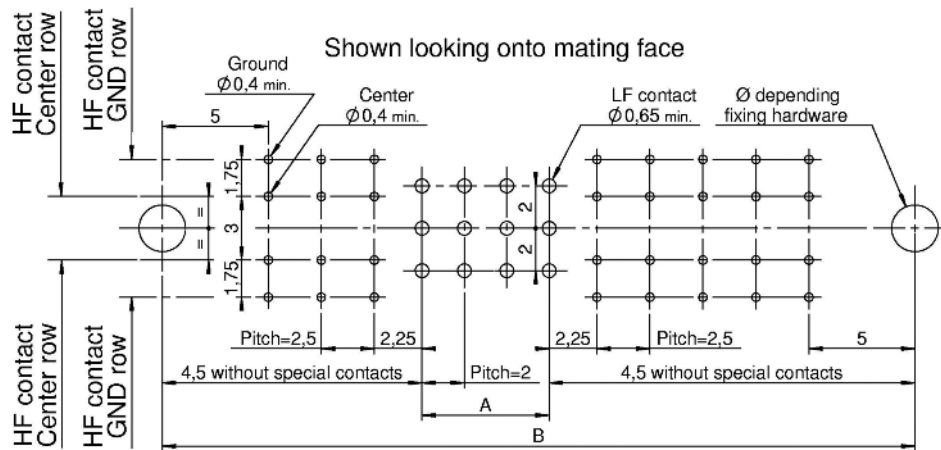
FEMALE STRAIGHT ON PCB P/N 22-2300-xx



Loaded	Length L
230012	3 mm
230014	4,5 mm



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



$$A = \left\lceil \frac{(nnx2)}{3} \right\rceil - 2$$

if yy and zz ≠ 0 :

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

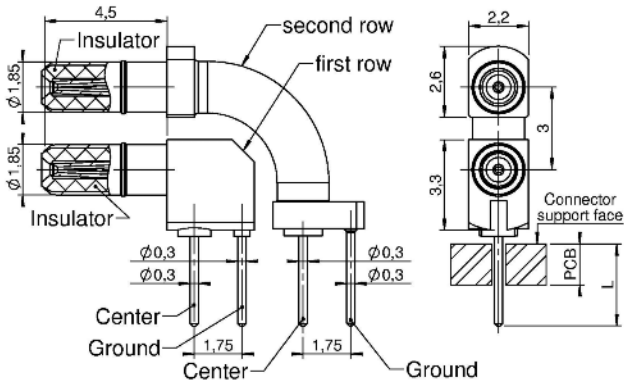
if yy or zz = 0 :

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

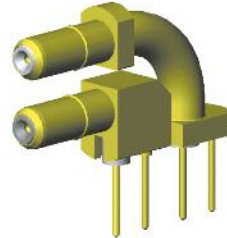
B max. = 87

HF : High Frequency contacts series 22

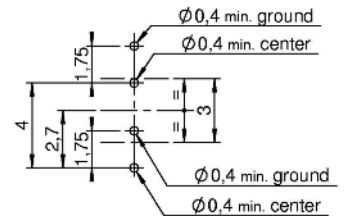
MALE 90° PCB P/N 22-1400-xx



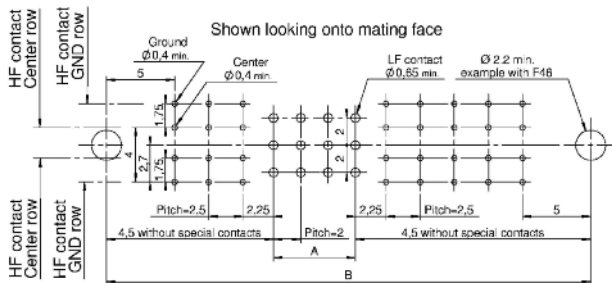
	Loaded		Loaded	Length L
First row	140012	it mounted in same connector	140002	3 mm
Second row	140022			
First row	140014	it mounted in same connector	140004	4,5 mm
Second row	140024			



PCB Lay-out



PCB LAYOUT 22-1400-xx



$$A = \left\{ \frac{(nnx2)}{3} \right\} - 2$$

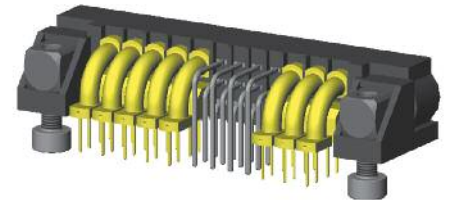
if yy or zz ≠ 0 :

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

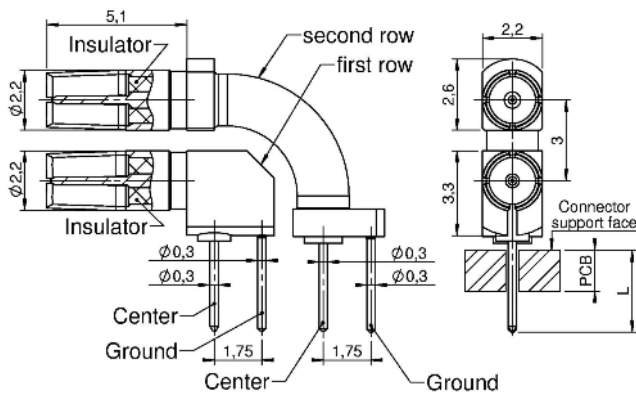
if yy or zz = 0 :

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

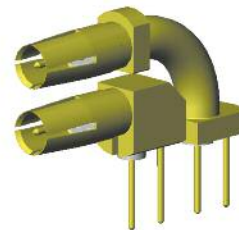
B max. = 87



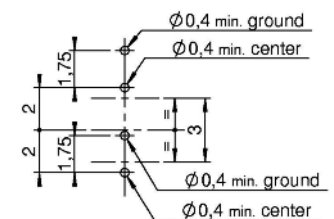
FEMALE 90° PCB P/N 22-2400-xx



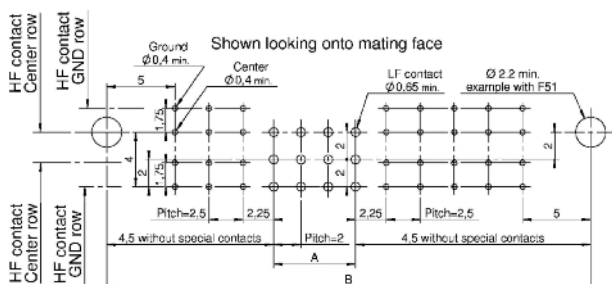
	Loaded		Loaded	Length L
First row	240012	it mounted in same connector	240002	3 mm
Second row	240022			
First row	240014	it mounted in same connector	240004	4,5 mm
Second row	240024			



PCB Lay-out



PCB LAYOUT 22-2400-xx



$$A = \left\{ \frac{(nnx2)}{3} \right\} - 2$$

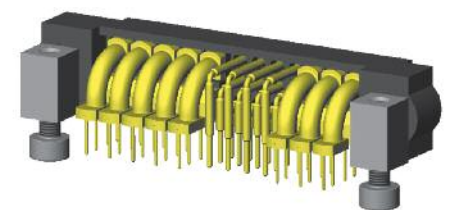
if yy and zz ≠ 0 :

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

if yy or zz = 0 :

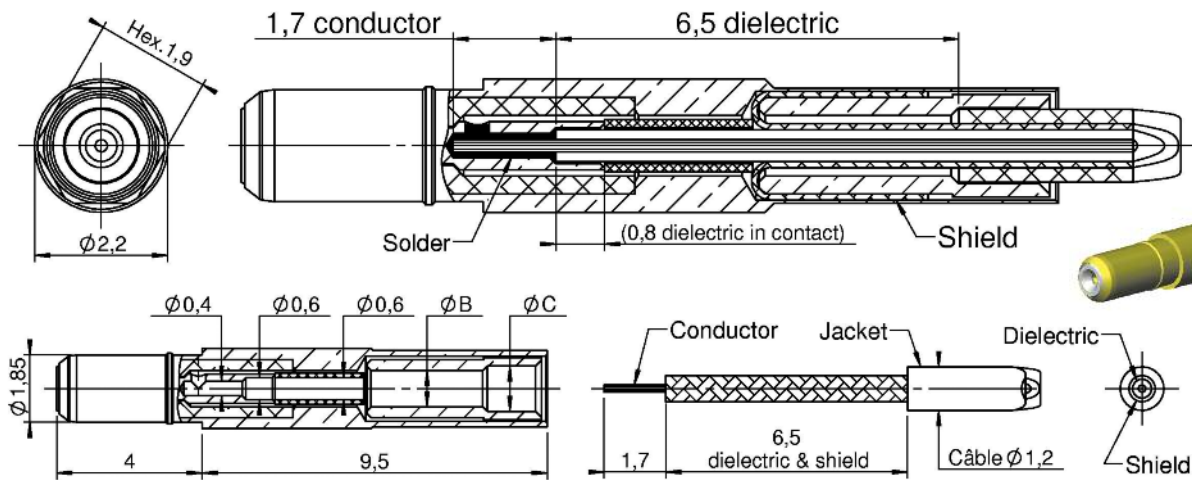
$$B = \left\{ \frac{(yy)-(zz)}{2} - 1 \right\} \times 2,5 + 11,75 + A$$

B max. = 87



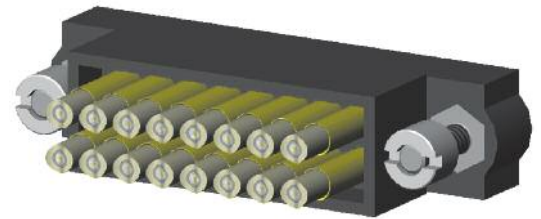
HF : High Frequency contacts series 22

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

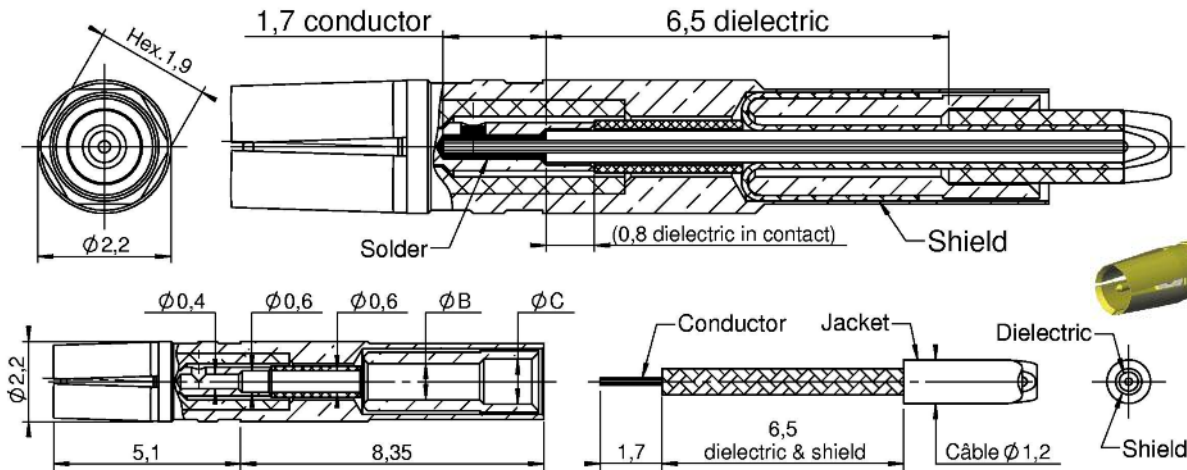


Cable assy instruction IC22HF01 on page 116

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

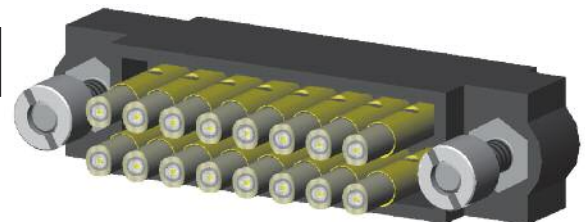


FEMALE STRAIGHT TO CRIMP ON CABLE Ø 1.2 P/N 22-2312-ZS-xx



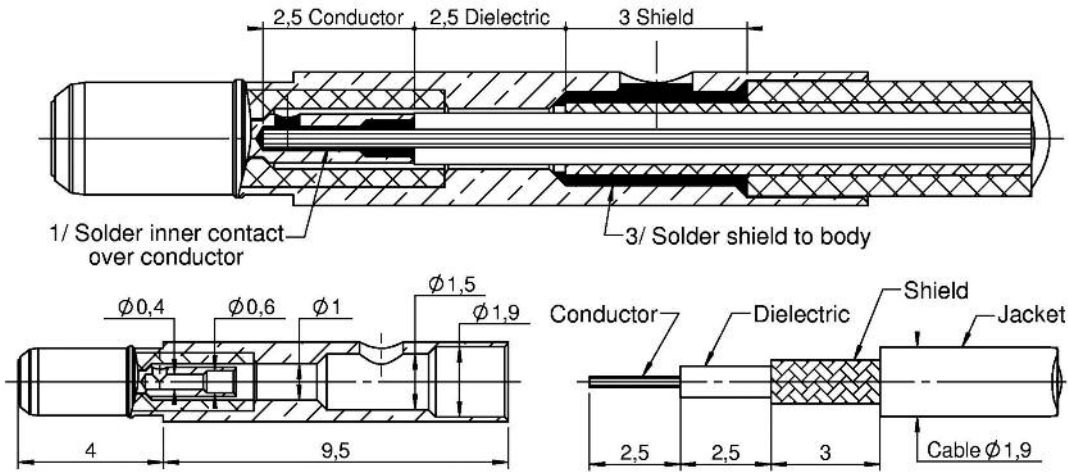
Cable assy instruction IC22HF02 on page 117

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



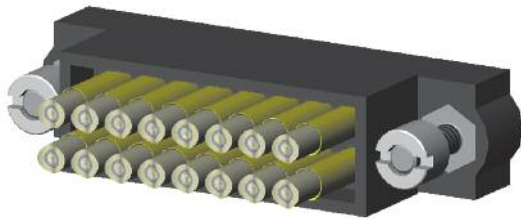
HF : High Frequency contacts series 22

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



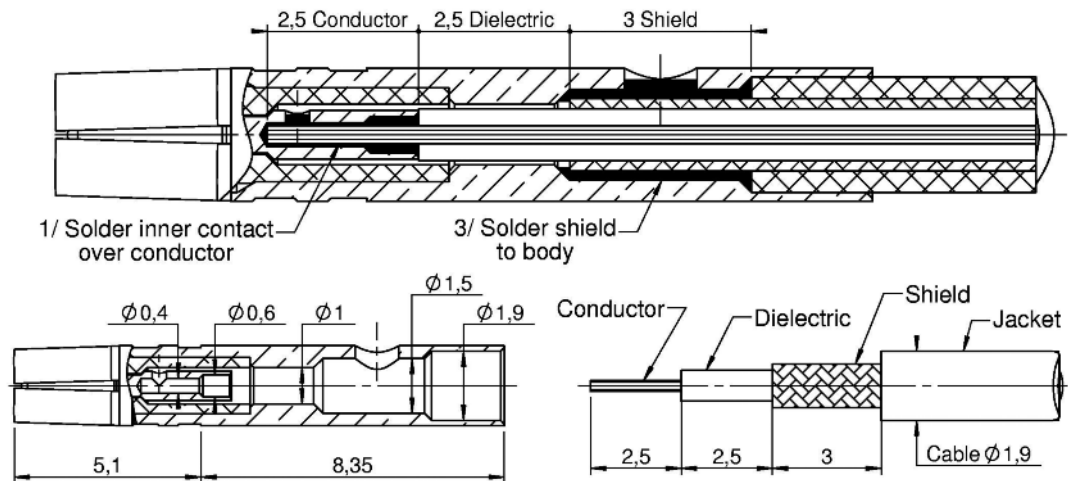
1/ Solder inner contact over conductor
3/ Solder shield to body

1/ Solder inner contact over conductor.
2/ Push cable with inner contact in body.
3/ Solder shield to body.



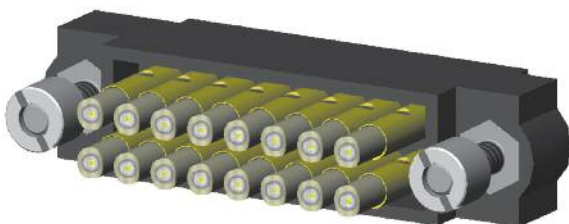
Loaded	Unloaded
1320ZZ	22-1320-ZZ

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



1/ Solder inner contact over conductor
3/ Solder shield to body

1/ Solder inner contact over conductor.
2/ Push cable with inner contact in body.
3/ Solder shield to body.

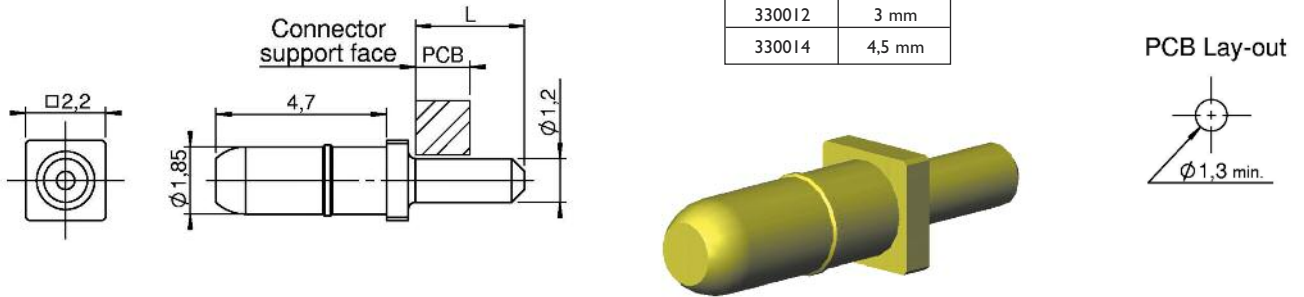


Loaded	Unloaded
2320ZZ	22-2320-ZZ

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

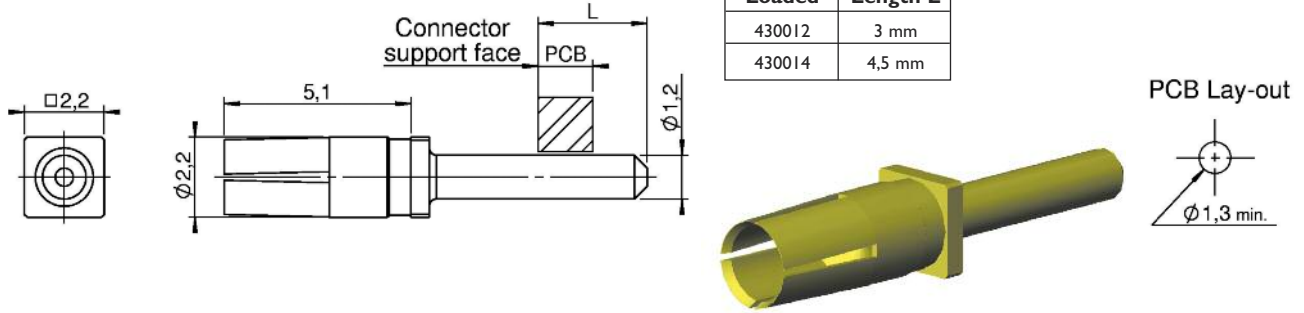


Connector support face PCB L $\phi 1,2$ 4,7 $\phi 1,85$ $\square 2,2$

PCB Lay-out $\phi 1,3 \text{ min.}$

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

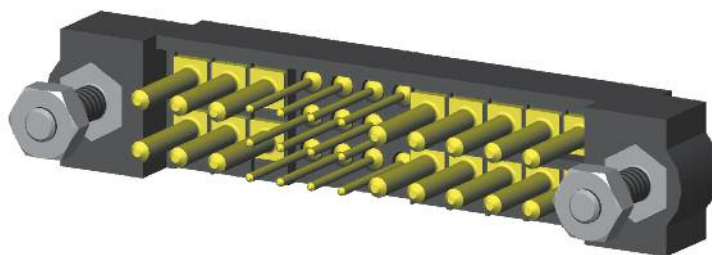
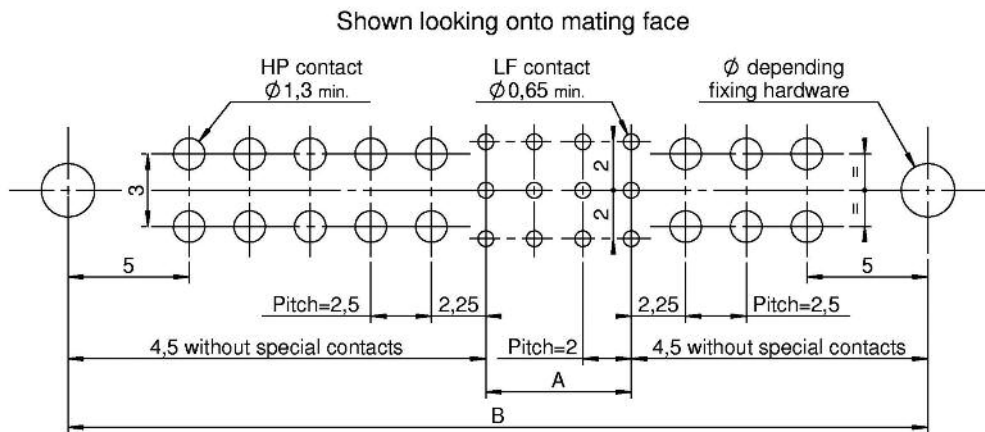
Loaded	Length L
430012	3 mm
430014	4,5 mm



Connector support face PCB L $\phi 1,2$ 5,1 $\phi 2,2$ $\square 2,2$

PCB Lay-out $\phi 1,3 \text{ min.}$

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



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

if yy and zz $\neq 0$:

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

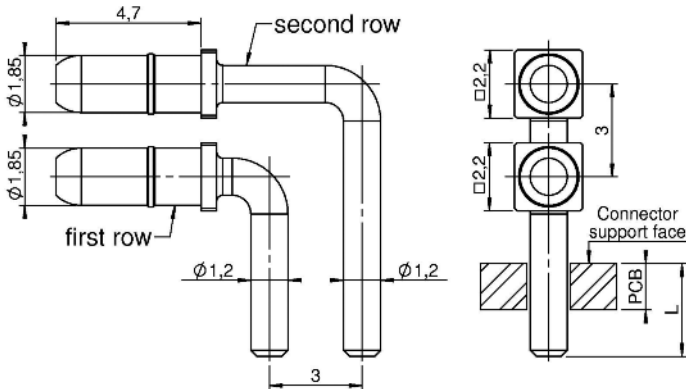
if yy or zz = 0 :

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

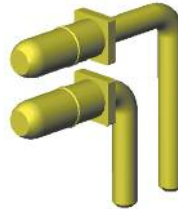
B max. = 87

HP : High power contacts series 22

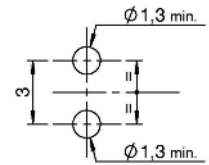
MALE 90° PCB P/N 22-3400-xx



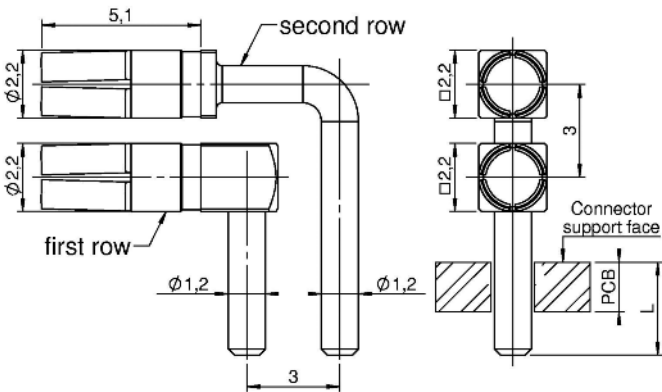
	Loaded		Loaded	Length L
First row	340012	it mounted in same connector	340002	3 mm
Second row	340022			
First row	340014	it mounted in same connector	340004	4,5 mm
Second row	340024			



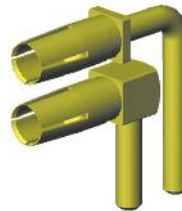
PCB Lay-out



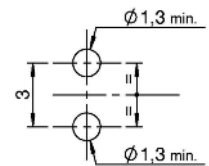
FEMALE 90° PCB P/N 22-4400-xx



	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			

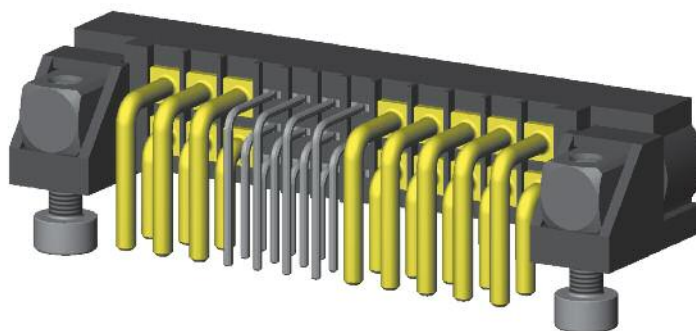
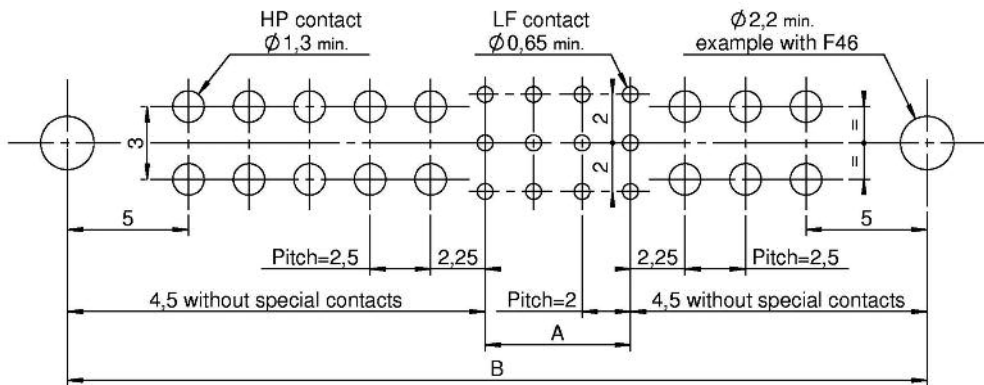


PCB Lay-out



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

Shown looking onto mating face



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

if yy and zz ≠ 0 :

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

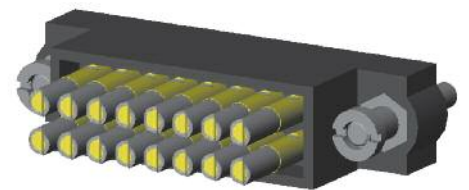
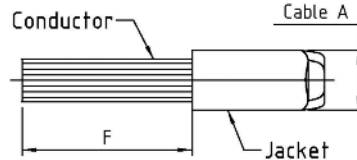
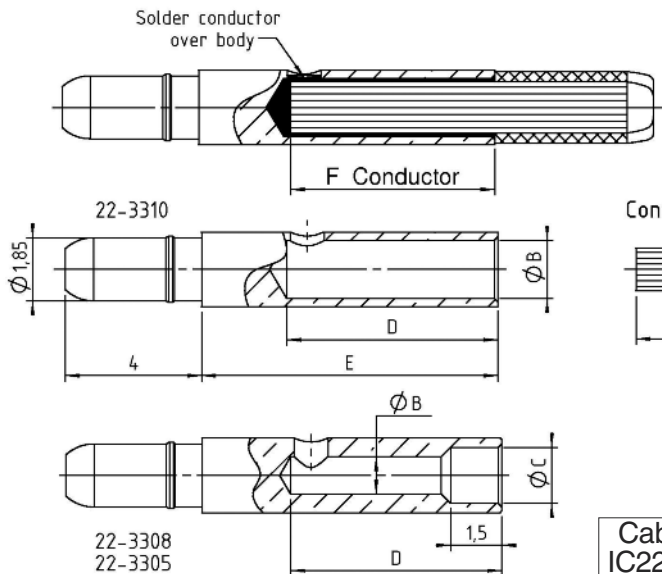
if yy or zz = 0 :

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

B max. = 87

HP : High power contacts series 22

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

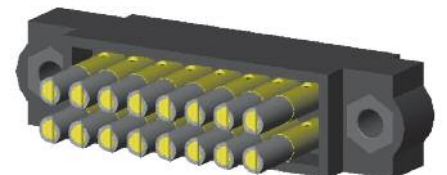
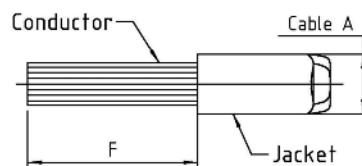
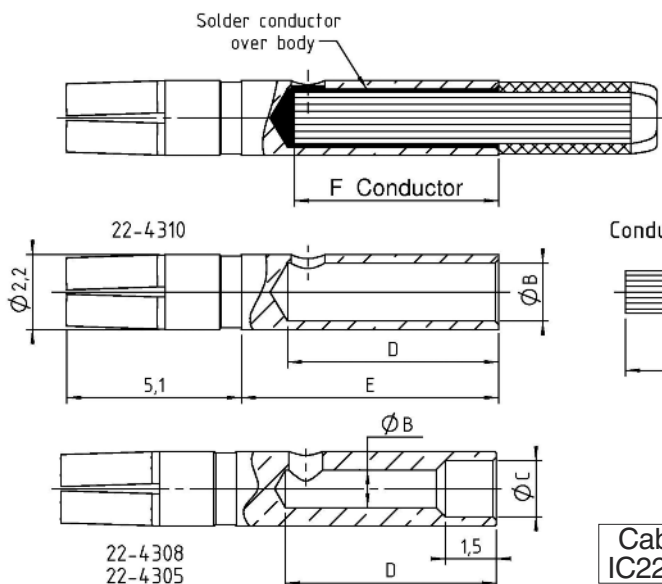


Cable assy instruction IC22HP02 on page 121

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

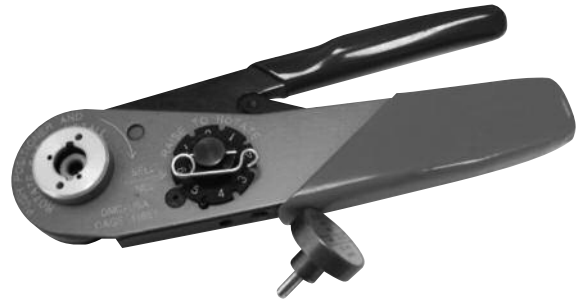
Loaded	Unloaded	Ampere	Cable A			ØB	ØC	Length D hole	Length E body	Length F conductor	Solder	Crimpy HX3 Hexagone size/Dies	Crimp by AF8
			AWG 20	AWG 18	AWG 16								
4305	22-4305	5A	X			1,1 mm	1,65 mm	6,2 mm	7,7 mm	4,5 mm	OK	Hex. 1,9 mm/C14923	OK
4308	22-4308	8A		X		1,35 mm	1,85 mm	6,2 mm	7,7 mm	4,5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

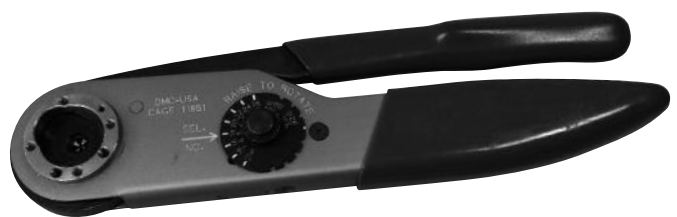


Crimp barrel accomodation for LF contacts					
Hand crimp tool reference	Positioner	Contacts type	Contacts reference	Wire size (AWG)	Crimp tool setting
DANIELS MH800	K1692	Male C	I2960	22	6
DANIELS MH800	K1692	Male S	I2969	24	7
DANIELS MH800	K1692	Male S	I2969	26 & 28	6
DANIELS MH800	K1692	Female C	C13064-P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

Crimp barrel accomodation 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	16459
DANIELS AF8 + C16460	C16462
DANIELS AF8 + C16461	C16463



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



Tools

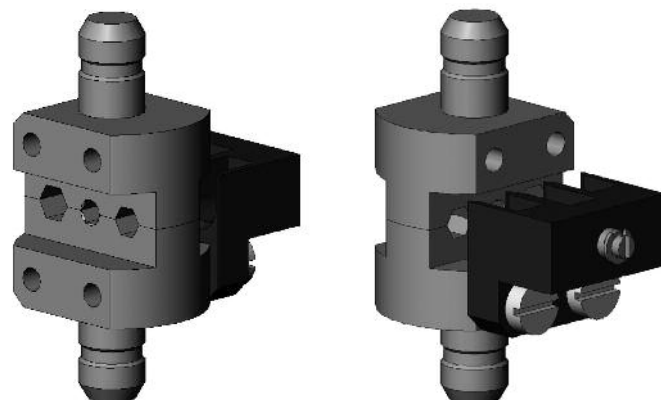
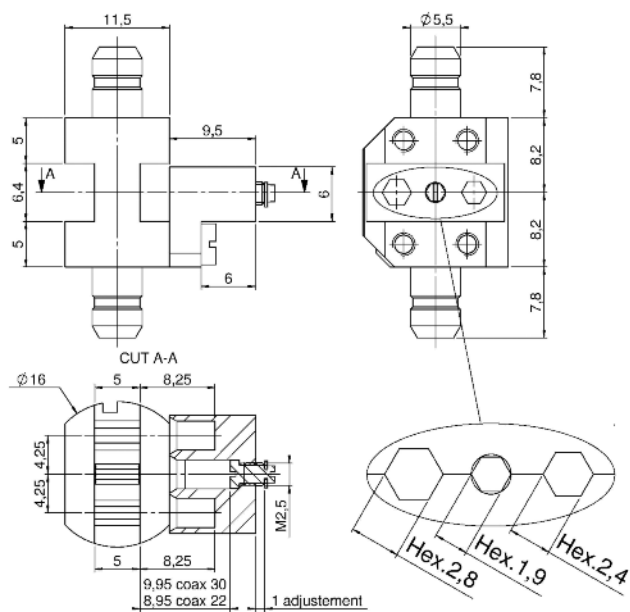
DANIELS HX3 TOOL P/N 13858

Tools reference	Reference Nicomatic
DANIELS HX3 only	I3858
DANIELS HX3 & C13847	C12238
DANIELS HX3 & C14680	C14770

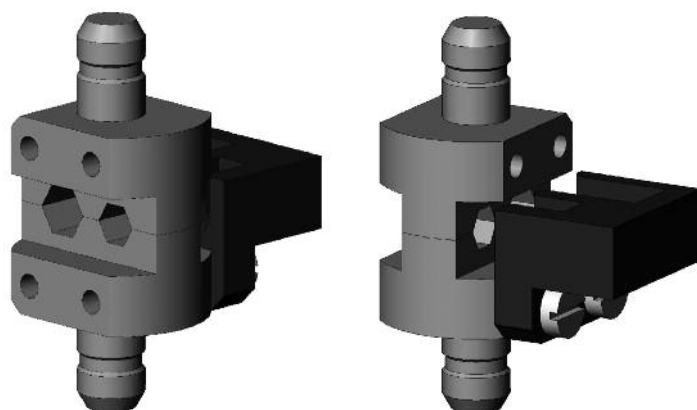
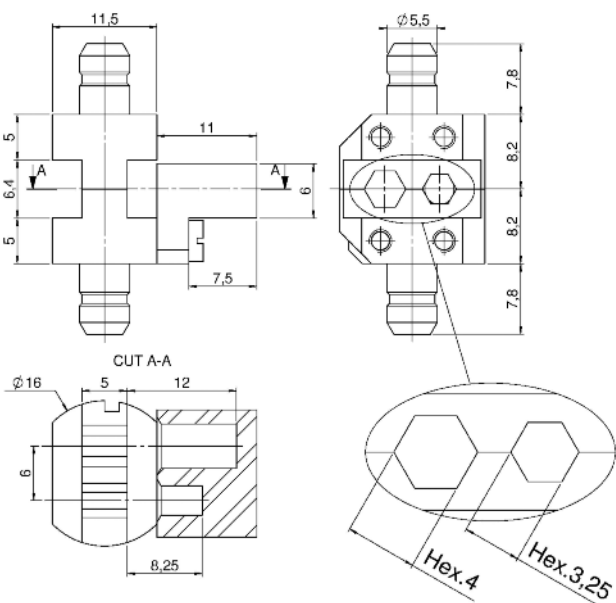


Crimp barrel accomodation for crimping coaxial contact shield		
Hand crimp tool reference	Dies	Hexagonal imprint
DANIELS HX3	C13847	Hex. 1,9 / Hex. 2,4 / Hex. 2,8
DANIELS HX3	C14680	Hex. 3,25 / Hex. 4

CRIMP DIE C13847 FOR DANIELS HX3 TOOL (HF CONTACT)

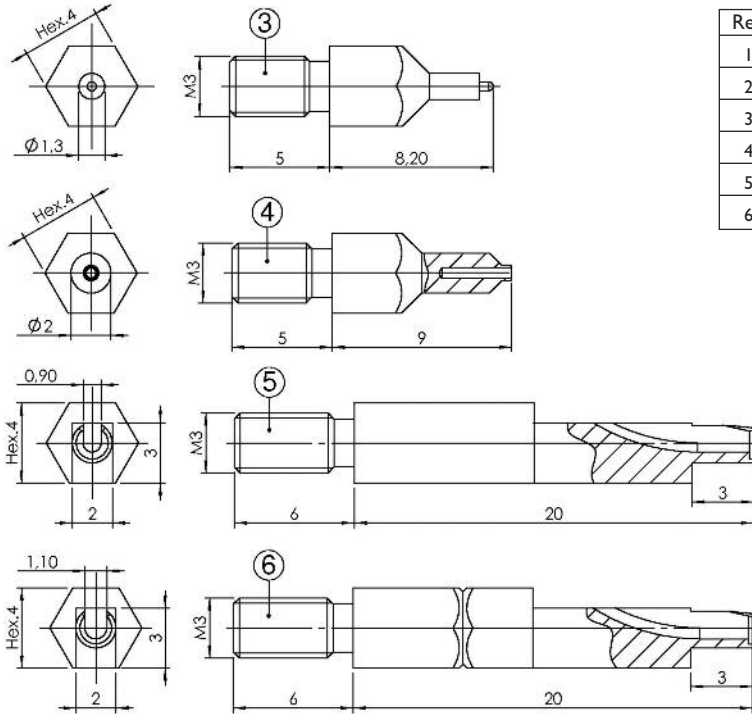


CRIMP DIE C14680 FOR DANIELS HX3 TOOL (HF CONTACT)

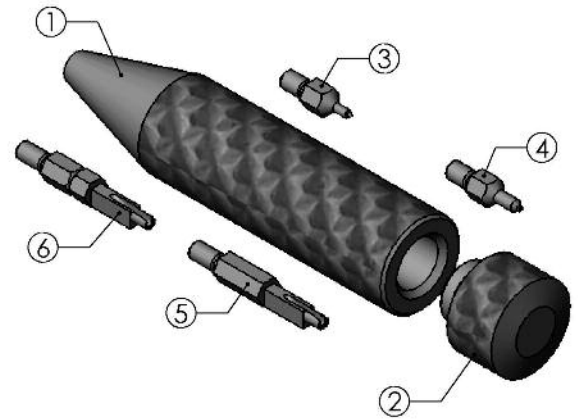


Tools

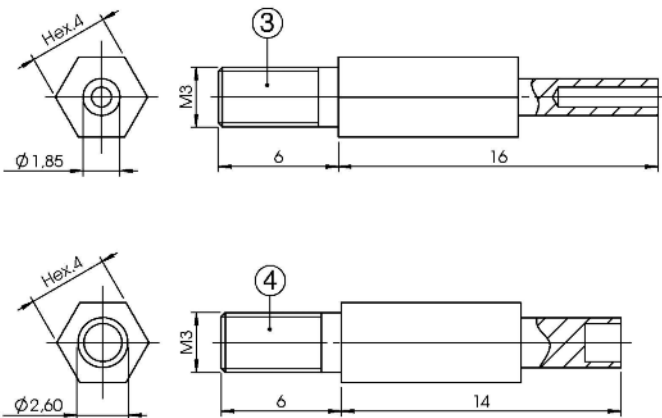
LF CONTACTS INSERTION & WITHDRAWAL TOOL P/N C12935



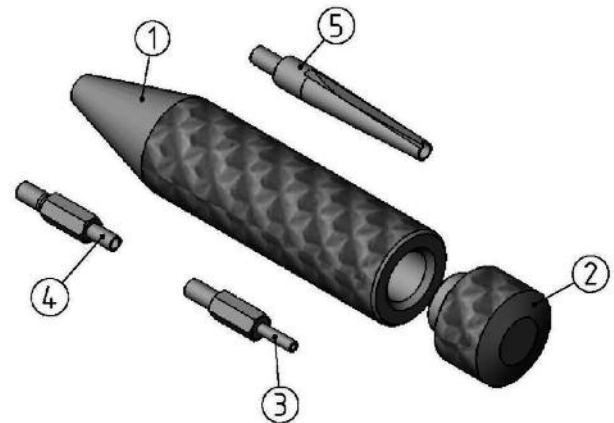
Rep	Reference	Assembly C12935
1	13241	Body
2	13240	Plug
3	13170	Female contact extraction tip
4	13242	Male contact extraction tip
5	13171	24-28 AWG insertion tip
6	13712	22 AWG insertion tip



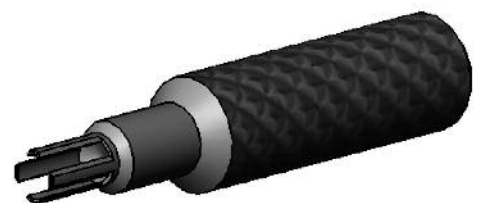
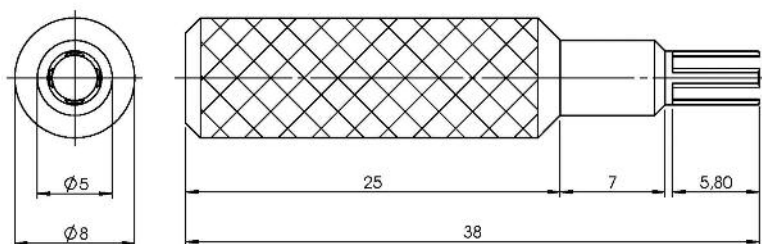
HF / HP SERIES 22 CONTACTS REMOVAL P/N C13997



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

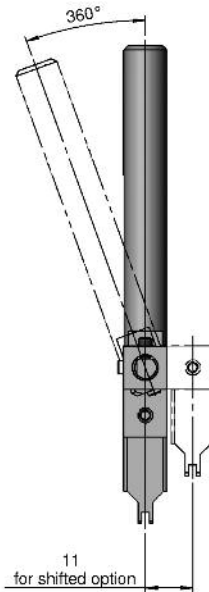
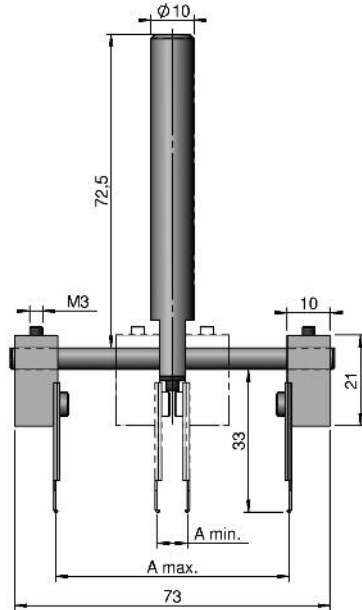
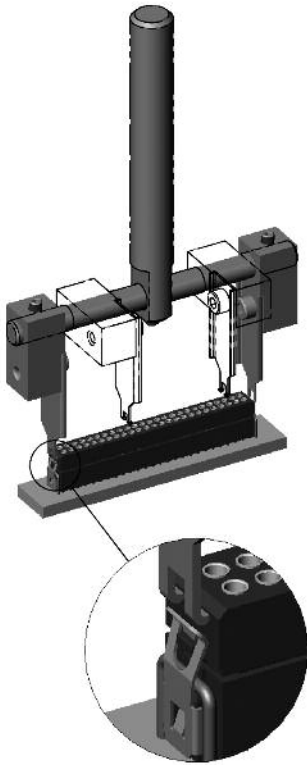


HF / HP SERIES 30 CONTACTS REMOVAL P/N 12368



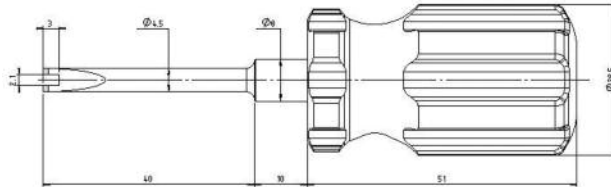
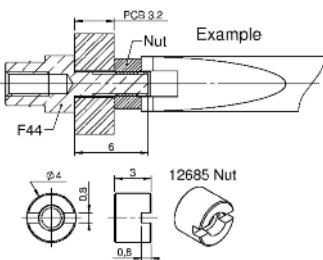
Tools

LATCH SEPARATION TOOL P/N C14790



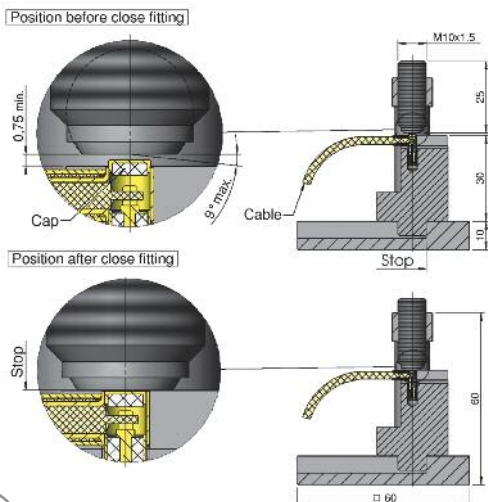
Series	A max.		A min.	
	A max.	LF contacts	A min.	LF contacts
CMM 100	53	25	7	2
CMM 200	53	50	7	4

SCREWDRIVER P/N C14743 FOR NUT P/N 12685



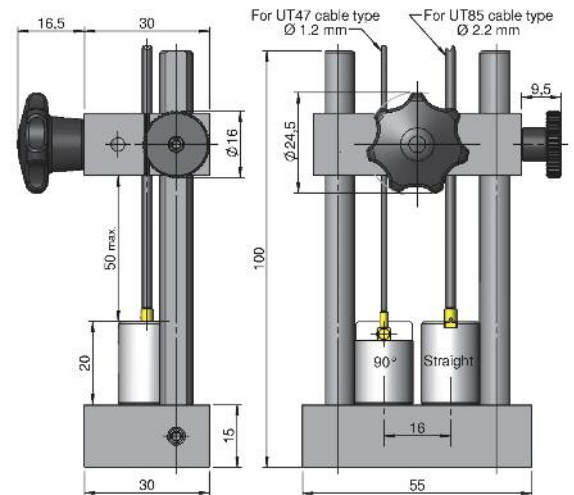
Optional: dynamometric screwdriver specifically designed for low torques (includes bits & adjusting key).

MOUNTING OF C14772 BACK CAPS



Hex. 5mm Tool not delivered

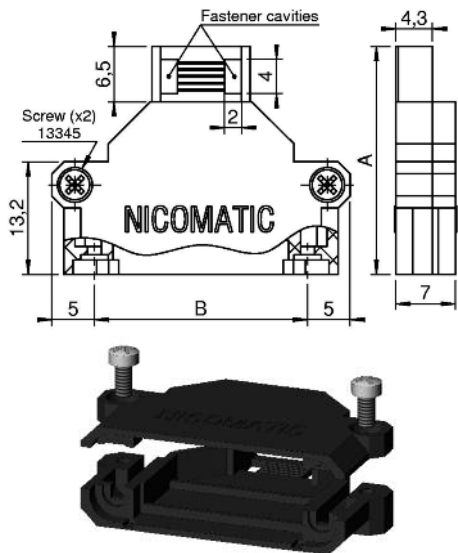
SUCOFLEX SOLDER TOOL P/N C14777



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 -

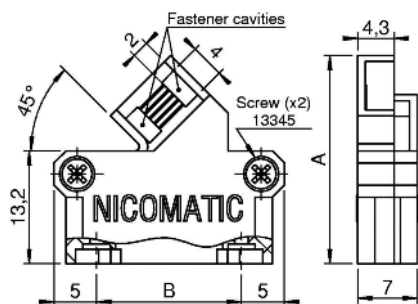
CMM 220 series

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 - - 4 5

CMM 220 series

45 for exit 45°

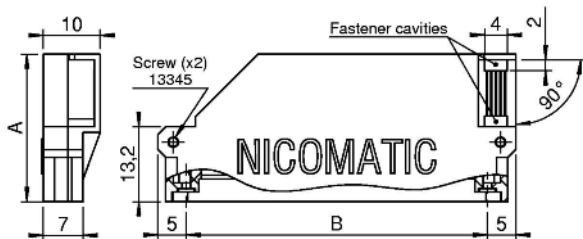
Reference	Length B	Length A	Screw (x2)
CMM-C2-17-45	17 mm	24,4 mm	Included

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 - - 9 0

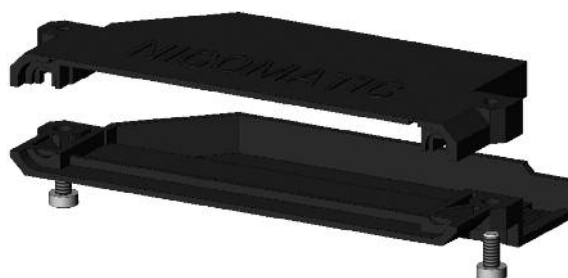
CMM 220 series

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

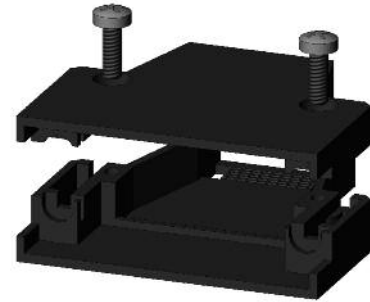
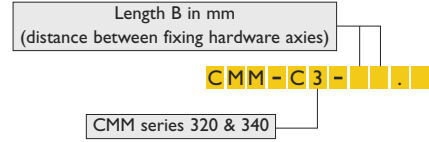
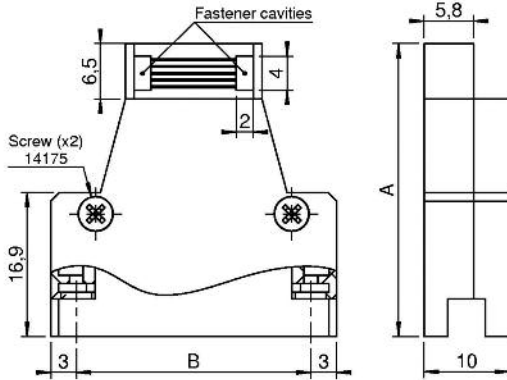


Note: Aluminum covers are available upon request. Contact us.

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)

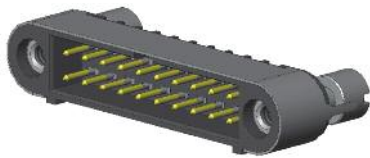


Reference	Length B	Length A	Screw (x2)
CMM-C3-27.5	27,5 mm	34,4 mm	Included
CMM-C3-45.0	45,0 mm	34,4 mm	

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

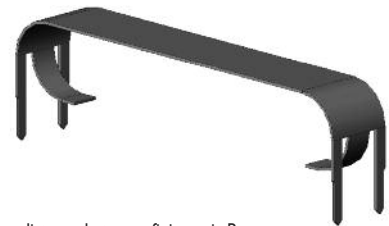
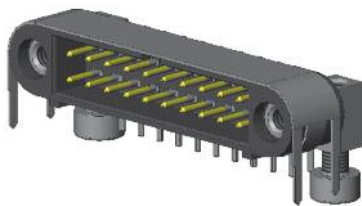
Other upon request

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



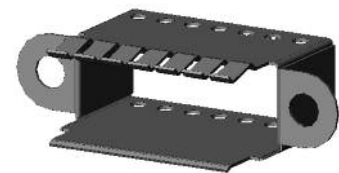
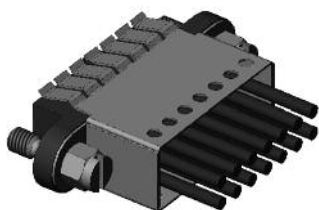
XX = distance between fixing axis B

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

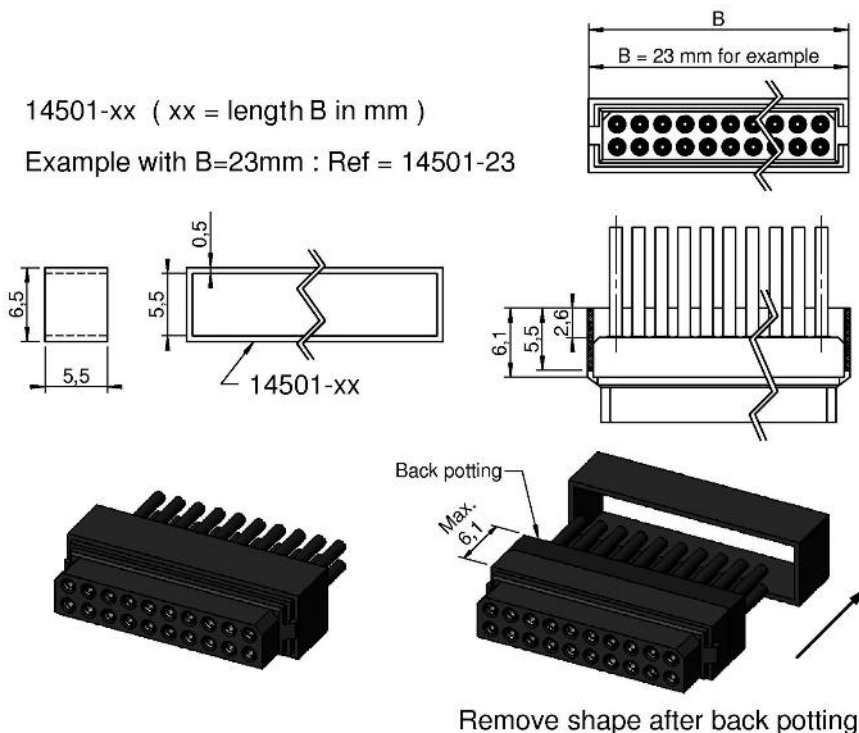
BACKPOTTING SHAPE FOR CMM SERIES 200 (female) P/N 14501-XX

Material : thermoplastic 100°C max.

Reference	Length B
14501-07	min. 7 mm
14501-09	9 mm
14501-11	11 mm
14501-13	13 mm
14501-15	15 mm
14501-17	17 mm
14501-19	19 mm
14501-21	21 mm
14501-23	23 mm
14501-25	25 mm
14501-27	27 mm
14501-29	29 mm
14501-31	31 mm
14501-33	33 mm
14501-35	35 mm
14501-37	37 mm
14501-39	39 mm
14501-41	41 mm
14501-43	43 mm
14501-45	45 mm
14501-47	47 mm
14501-49	49 mm
14501-51	51 mm
14501-53	max. 53 mm

14501-xx (xx = length B in mm)

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



Remove shape after back potting

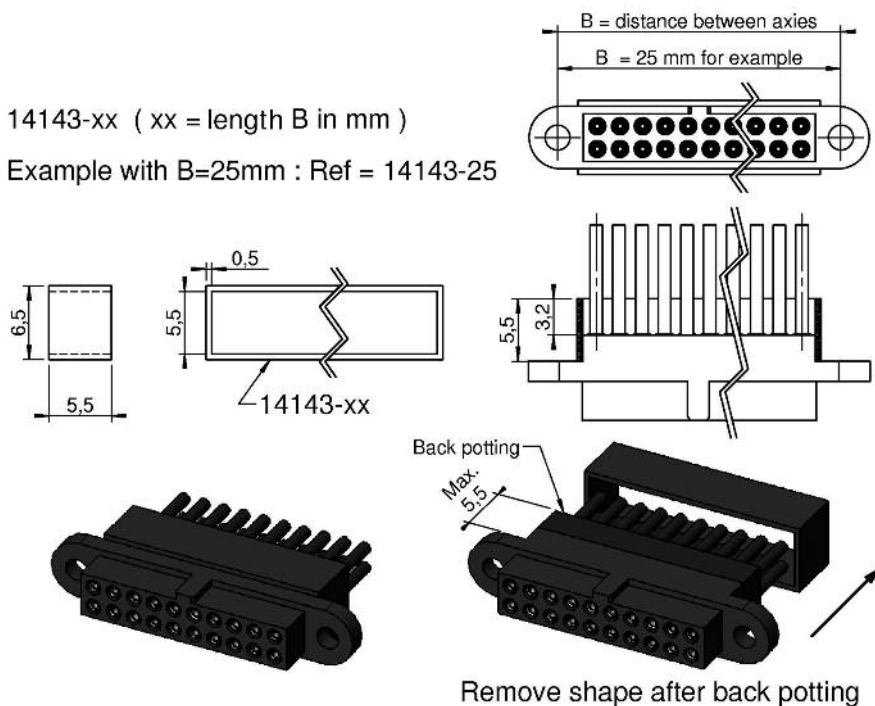
BACKPOTTING SHAPE FOR CMM SERIES 220 (male & female) P/N 14143-XX

Material : thermoplastic 100°C max.

Reference	Length B
14143-09	min. 9 mm
14143-11	11 mm
14143-13	13 mm
14143-15	15 mm
14143-17	17 mm
14143-19	19 mm
14143-21	21 mm
14143-23	23 mm
14143-25	25 mm
14143-27	27 mm
14143-29	29 mm
14143-31	31 mm
14143-33	33 mm
14143-35	35 mm
14143-37	37 mm
14143-39	39 mm
14143-41	41 mm
14143-43	43 mm
14143-45	45 mm
14143-47	47 mm
14143-49	49 mm
14143-51	51 mm
14143-53	53 mm
14143-55	55 mm
14143-57	57 mm
14143-59	59 mm
14143-61	61 mm
14143-63	63 mm
14143-65	max. 65 mm

14143-xx (xx = length B in mm)

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



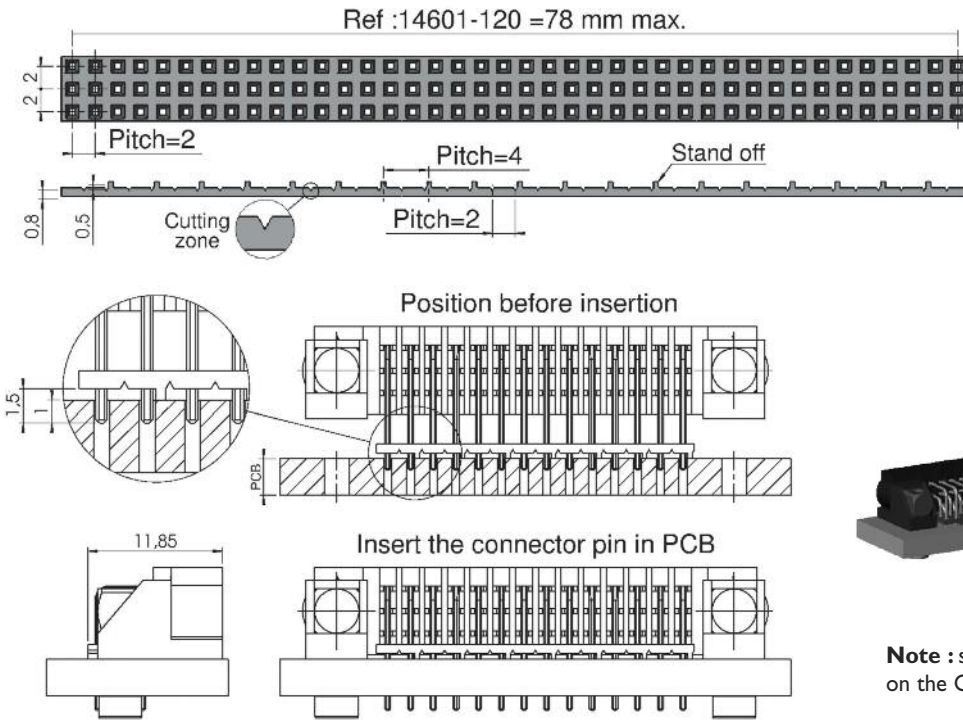
Remove shape after back potting

Note: Special housing with integrated backpotting available upon request.

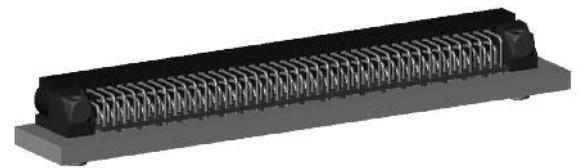
Accessories

CONTACTS ALIGNMENT PLATE P/N 14601-120

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



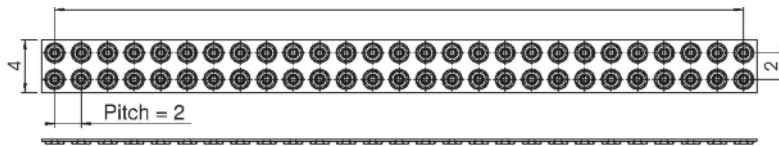
Divisible



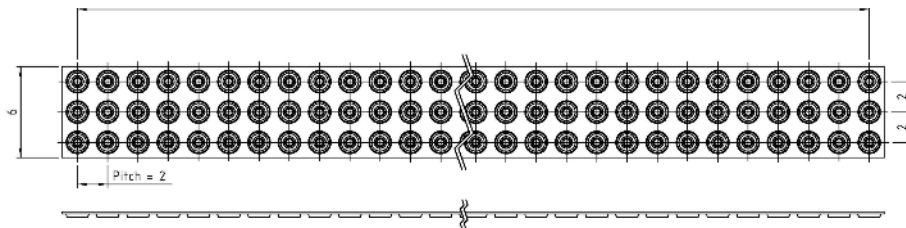
Note : systematically delivered and mounted on the CMM 320 series "right angle" (V and VL types)

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

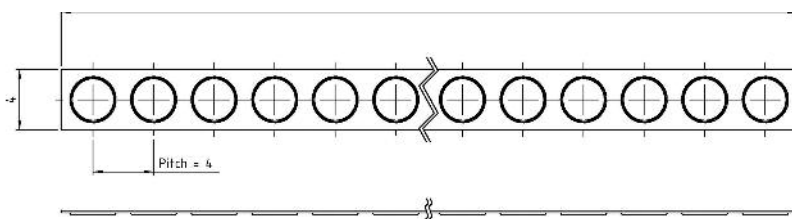
LF 220 series P/N 14599-54 = 52 mm max.



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



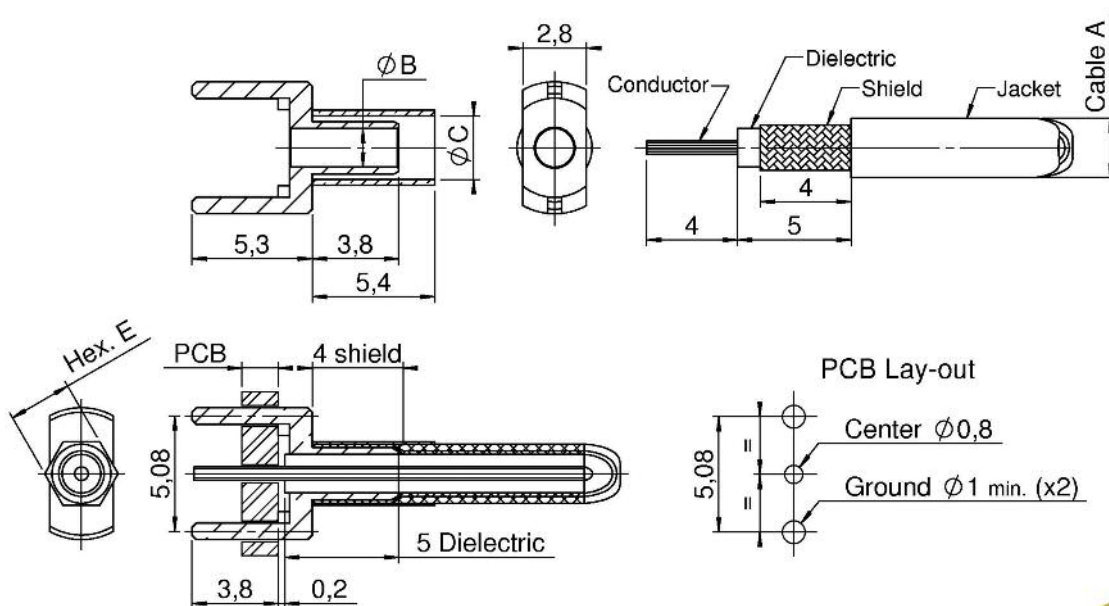
Special contacts 220 series P/N 16053-15 = 60,2 mm max.



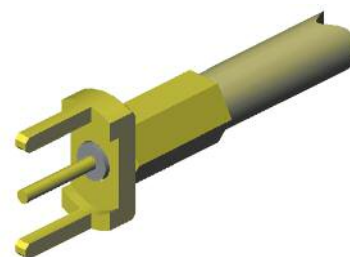
Mix-layout on request

Accessories

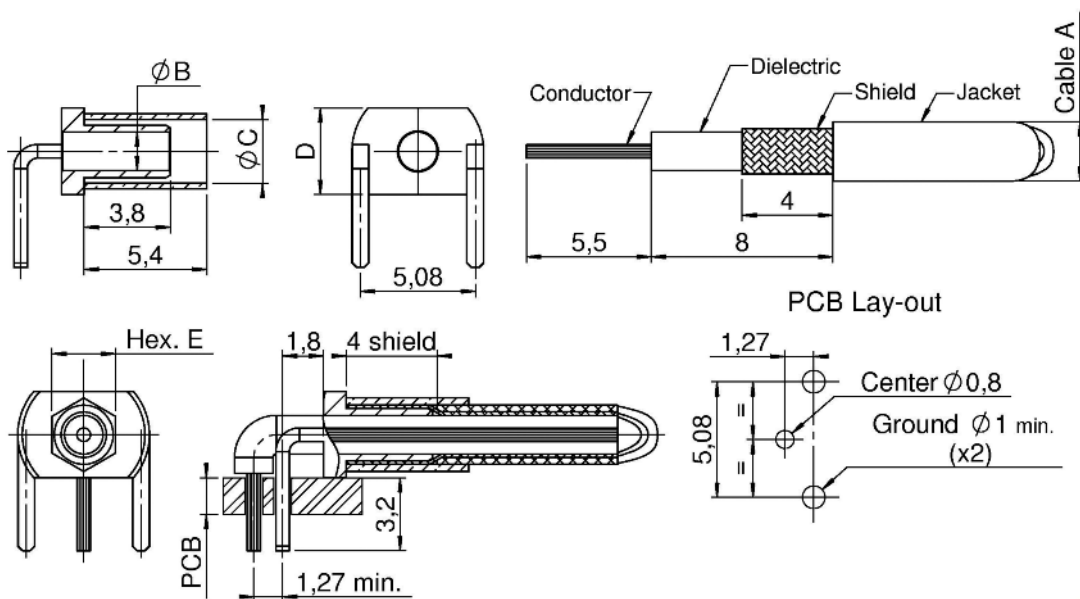
COAX CABLE CRIMP TERMINATION (straight for cables Ø 2 and Ø 2,7)



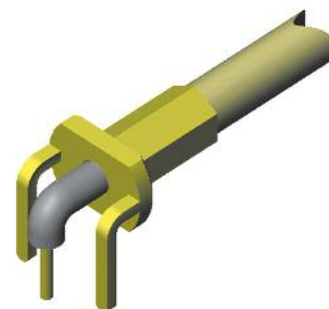
	CI4759	CI4760
Cable A	Ø 2	Ø 2,7
Ø B	1 mm	1,7 mm
Ø C	2,2 mm	2,8 mm
Hex. E	2,4 on flat	2,8 on flat



COAX CABLE CRIMP TERMINATION (90° for cables Ø 2 and Ø 2,7)



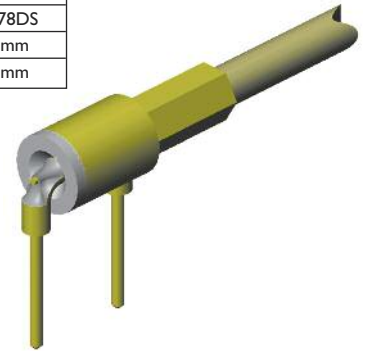
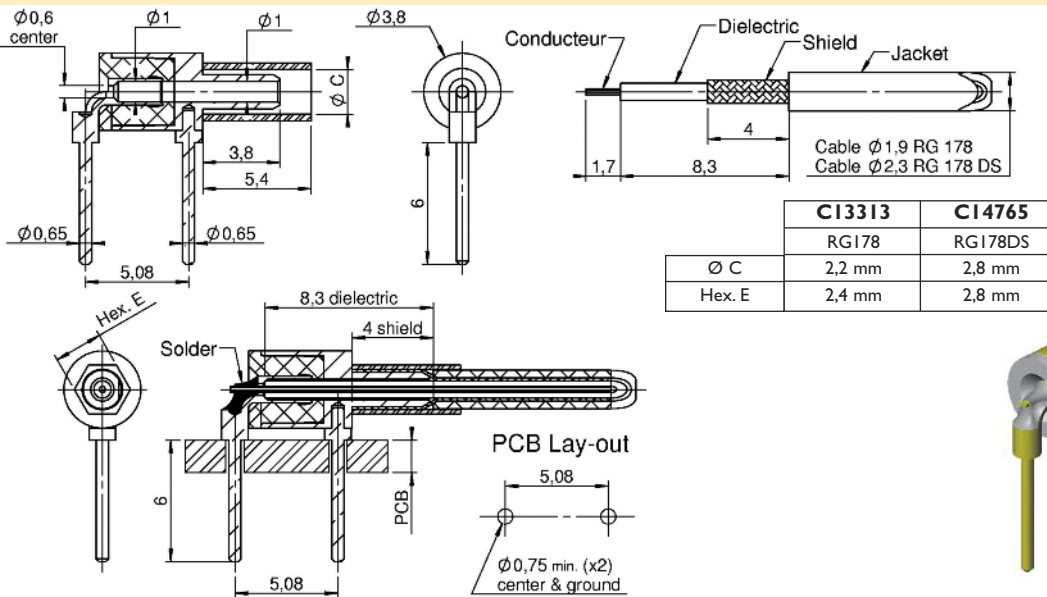
	CI4761	CI4762
Cable A	Ø 2	Ø 2,7
Ø B	1 mm	1,7 mm
Ø C	2,2 mm	2,8 mm
Length D	3,4 mm	3,8 mm
Hex. E	2,4 on flat	2,8 on flat



Accessories

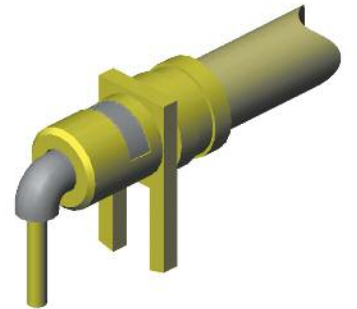
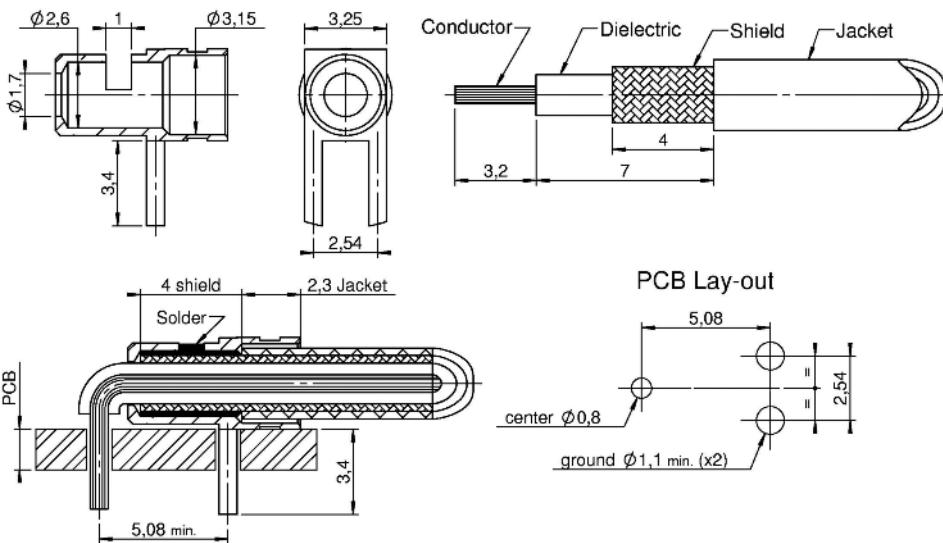
COAX CABLE CRIMP TERMINATION

P/N C13313 for RG 178 and P/N C14765 for RG 178 DS



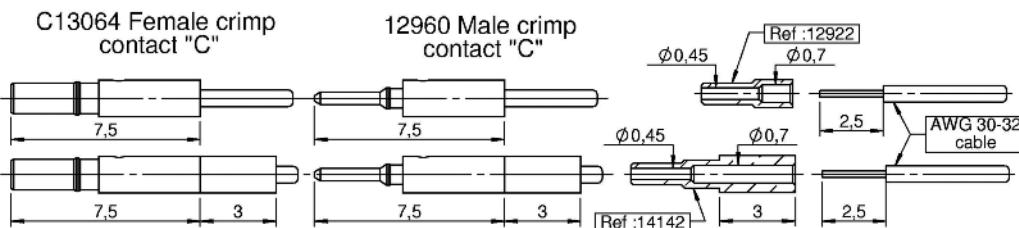
COAX CABLE CRIMP TERMINATION

P/N C12780 for cables RG 316

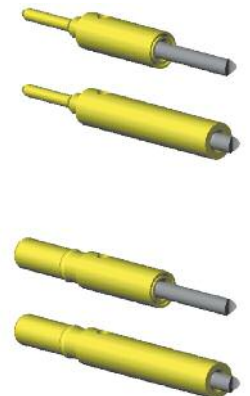


CRIMP GAUGE REDUCER

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

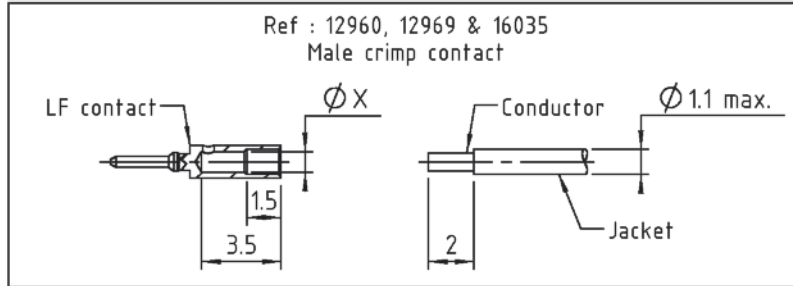
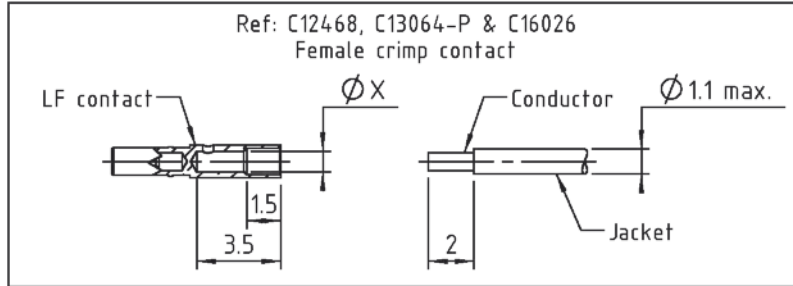


Gender	Contact "C"	Reducer	Tool	Positioner	Position 1st crimp	Position 2nd crimp
Male	12960	12922	MH800	K1692	Contact + reducer + cable position "4"	
Female	C13064-P					
Male	12960	14142	MH800	K1692	Reducer + cable position "8"	(Reducer & cable) + contact position "4"
Female	C13064-P					



Cable instructions (ICLF01)

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

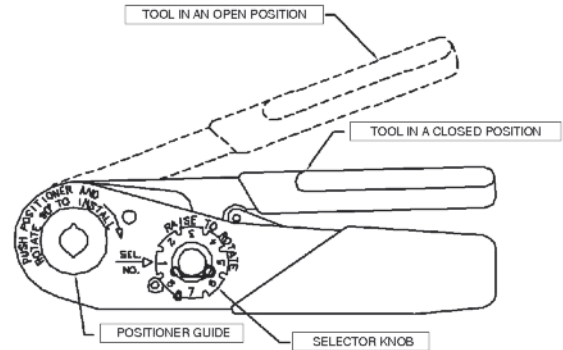


Crimp barrel accommodation					
Contact		Wire size (AWG)	Tool		
Reference	Type		Hand crimp tool reference	Positioner	Crimp tool setting
12960	Male C	22	DANIELS MH800	K1692	6
12969	Male S	24			7
16035					7
12969	Male S	26 & 28			6
16035					6
C13064-P	Female C	22			6
C12468	Female S	24			7
C16026					7
C12468	Female S	26 & 28			6
C16026					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 positionner K1692 in the positionner 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 (30-1312-ZS-02 *) 30-1412-ZS	Solder	Crimped Hex. 1,9 mm	50 Ohm
				Female	30-2312-ZS-01 (30-2312-ZS-02 *) 30-2412-ZS			
				Female	22-1312-ZS-01 (22-1312-ZS-02 *) 22-2312-ZS-01 (22-2312-ZS-02 *)			
			HF22	Male	22-1312-ZS-01 (22-1312-ZS-02 *)			
				Female	22-2312-ZS-01 (22-2312-ZS-02 *)			
				Female	22-2312-ZS-01 (22-2312-ZS-02 *)			
	75VMTX (SM 75 *)	1,2 mm	HF30	Male	30-1312-ZS-75-01 (30-1312-ZS-75-02 *) 30-1412-ZS-75	Solder	Crimped Hex. 1,9 mm	75 Ohm
				Female	30-2312-ZS-75-01 (30-2312-ZS-75-02 *) 30-2412-ZS-75			
				Female	22-1312-ZS-75-01 (22-1312-ZS-75-02 *) 22-2312-ZS-75-01 (22-2312-ZS-75-02 *)			
			HF22	Male	22-1312-ZS-75-01 (22-1312-ZS-75-02 *)			
				Female	22-2312-ZS-75-01 (22-2312-ZS-75-02 *)			
				Female	22-2312-ZS-75-01 (22-2312-ZS-75-02 *)			
Axon RG 178 DT	P500955	2,3 mm	HF30	Male	30-1320-DS 30-1420-DS	On choice Solder	Crimped Hex. 2,8 mm	50 Ohm
				Female	30-2320-DS 30-2420-DS	On choice Solder		
Axon PTFE Cellular	P 812817	2,3 mm	HF30	Male	30-1324-DS 30-1424-DS	On choice Solder	Crimped Hex. 2,8 mm	50 Ohm
				Female	30-2324-DS 30-2424-DS	On choice Solder		
	P 804298 B	2,4 mm	HF30	Male	30-1324-DS-75 30-1424-DS-75	On choice Solder	Crimped Hex. 2,8 mm	75 Ohm
				Female	30-2324-DS-75 30-2424-DS-75	On choice Solder		
Axon RG 316 DT	P0530912	2,7 mm	HF30	Male	30-1326-DS 30-1426-DS	On choice Solder	Crimped Hex. 3,25 mm	50 Ohm
				Female	30-2326-DS 30-2426-DS	On choice Solder		
Axon RG 179 DT	P530268	3 mm	HF30	Male	30-1326-DS-75 30-1426-DS-75	On choice Solder	Crimped Hex. 3,25 mm	75 Ohm
				Female	30-2326-DS-75 30-2426-DS-75	On choice Solder		

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

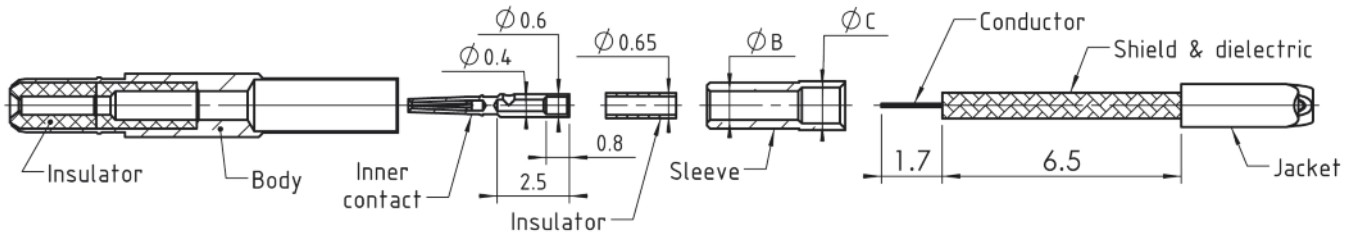
NORMES			HF CONTACTS			CONNECTION MODE			
MIL-C-17	NF C93-550	Ø Cable	Series	Gender	Ref. contact	Central contact	Shield	Impedance	
RG 178	KX 21 A	2 mm	HF30	Male	30-1320-SS	Crimped	Crimped Hex. 2,4 mm	50 Ohm	
					30-1320-ZS	Solder			
				30-1420-ZS	Solder				
				30-2320-SS	Crimped				
			HF22	Male	30-2320-ZS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

COAX CABLE

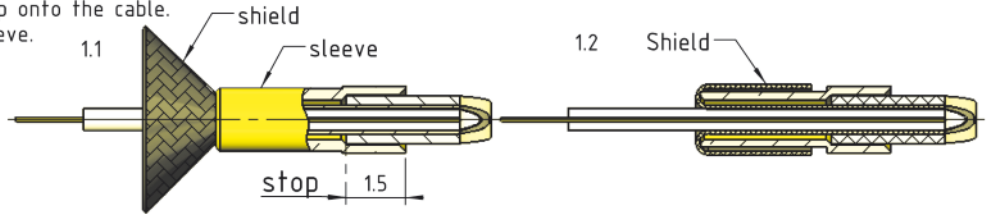
			HF CONTACTS			CONNECTION MODE		
Supplier	P/N	Ø Cable	Series	Gender	Ref. contact HF	Central contact	Shield	Impedance
	UT47	1,2 mm	HF30	Male	30-1347-ZZ	Solder	Solder	50 Ohm
					30-1447-ZZ			
				Female	30-2347-ZZ			
					30-2447-ZZ			
(Axon *)	UT85 (QFX 86 SPCW *)	2,2 mm	HF30	Male	30-1385-ZZ	Solder	Solder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

SEMI-RIGID

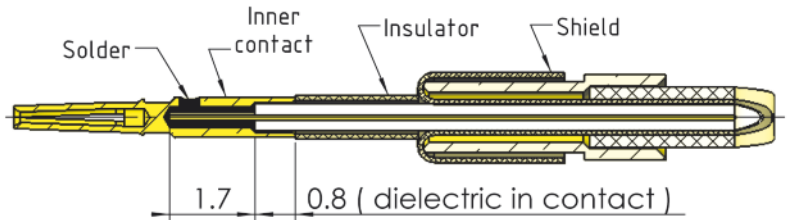
Cable instructions (IC22HF01)



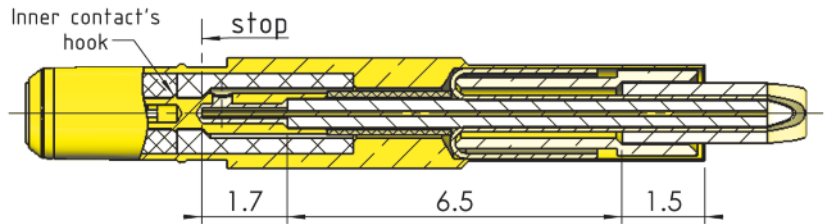
- 1/ 1.1 - Thread the sleeve until stop onto the cable.
 1.2 - Place the shield on the sleeve.



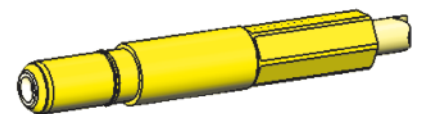
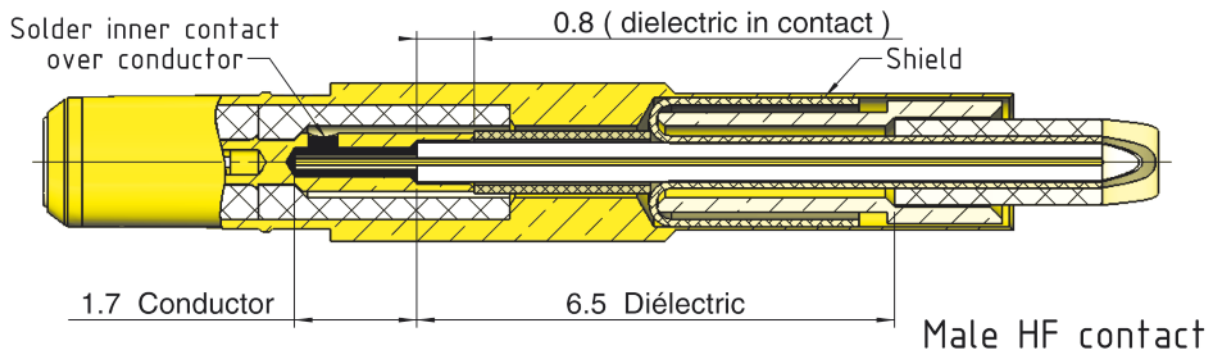
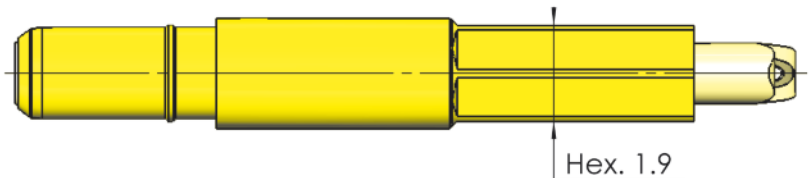
- 2/ - Thread the insulator.
 - Solder the inner contact on the conductor.



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

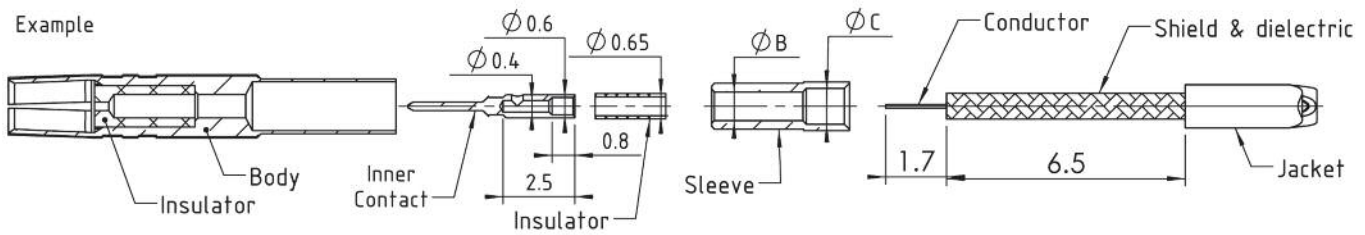


- 4/ CRIMP :
 - Tool : DANIELS HX3
 - Die : C13847
 - Position : 8.95 coax 22
 - Hexagone : 1.9mm / plats

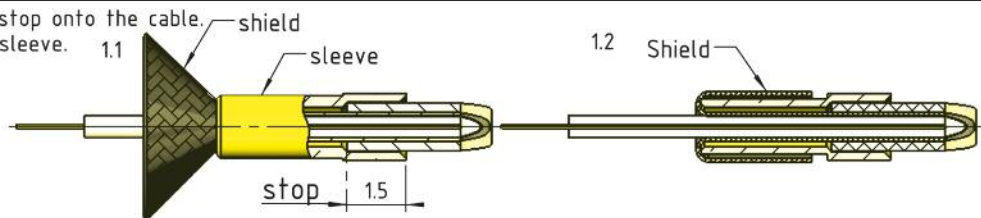


Cable instructions (IC22HF02)

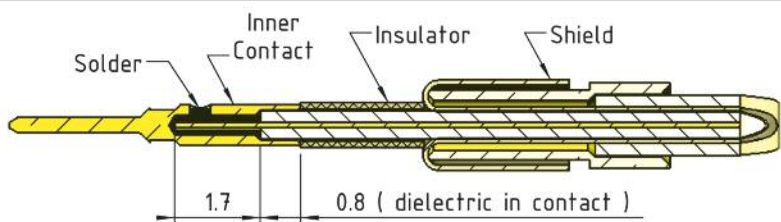
Example



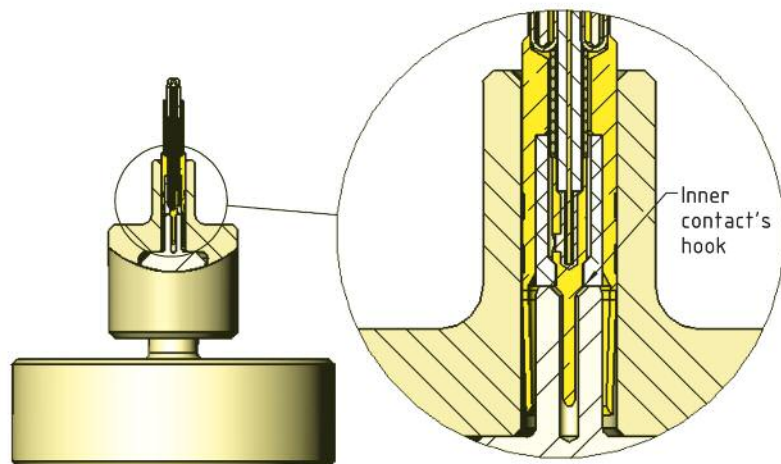
- 1/ 1.1 - Thread the sleeve until stop onto the cable.
- 1.2 - Place the shield on the sleeve.



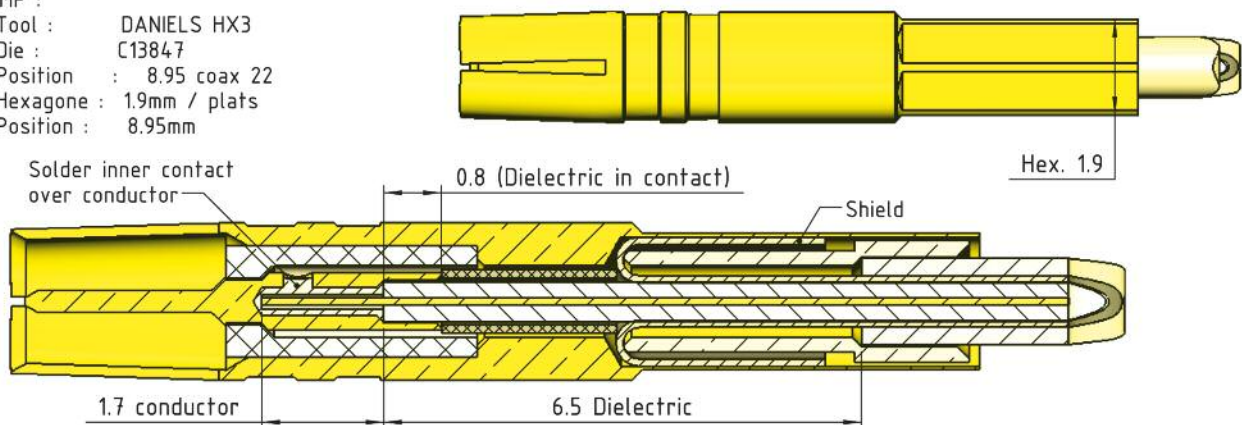
- 2/ - Thread the insulator.
- Solder the inner contact on the conductor.



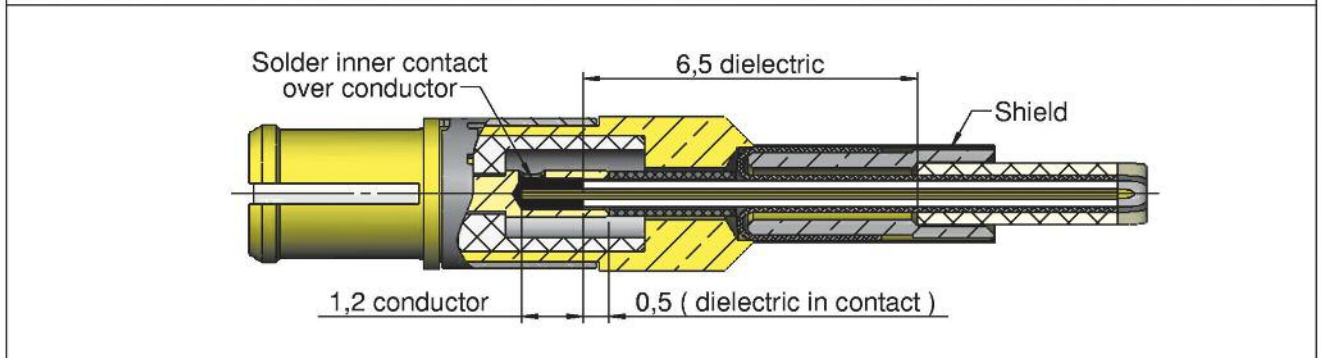
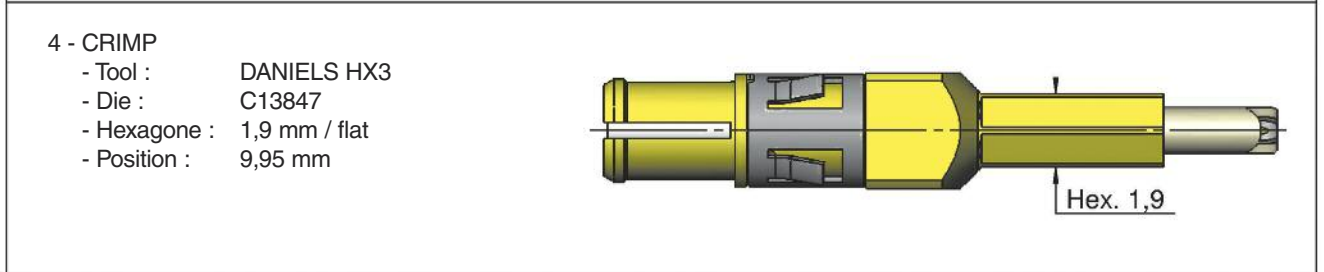
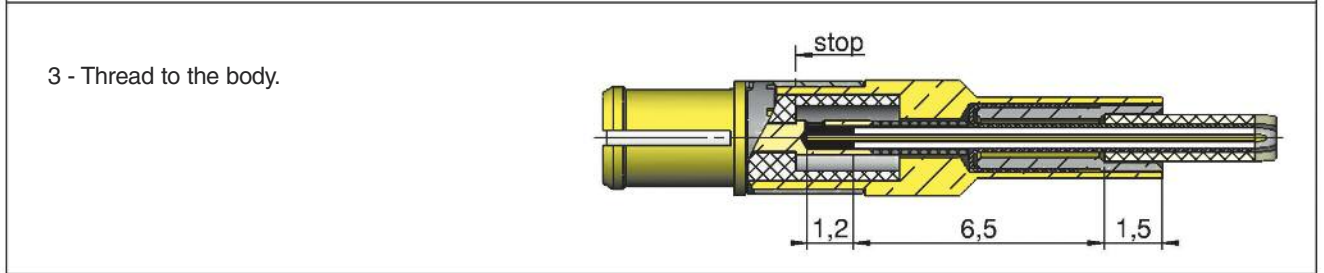
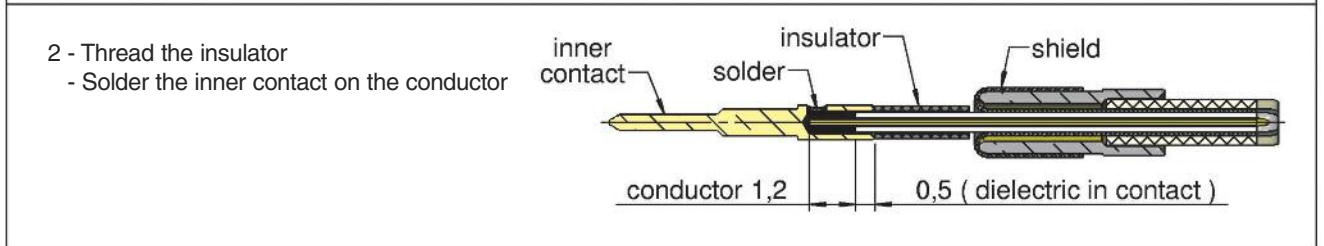
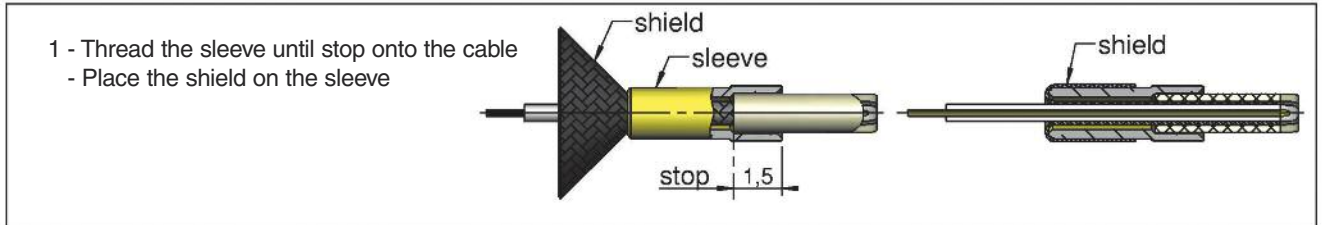
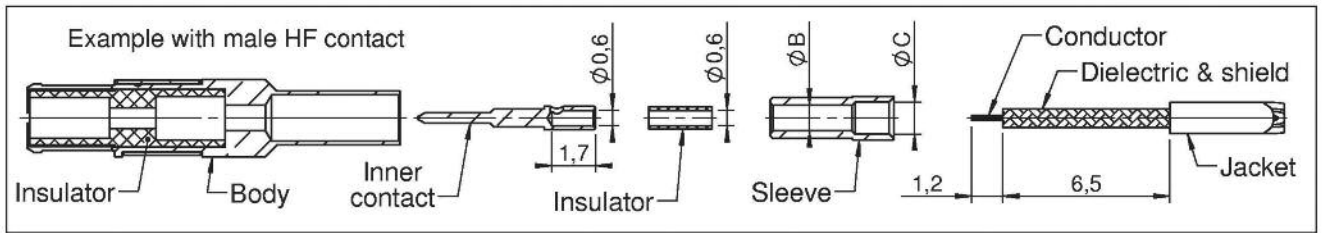
- 3/ - Put the contact body in the tool C16447.
- Thread to the body.
- Beware that the inner contact's hook goes entirely through the body's insulator.



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



Cable instructions (IC30HF01)

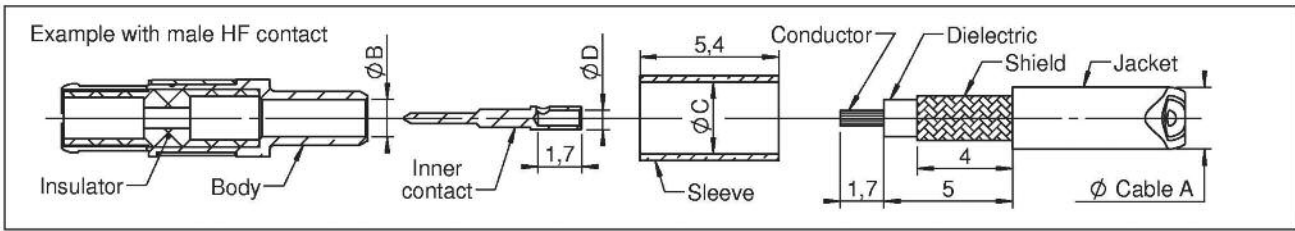


Female HF contact

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

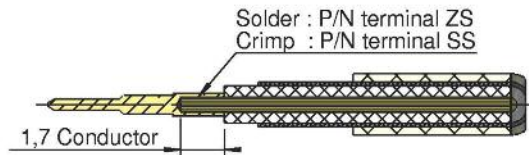
Male HF contact

Cable instructions (IC30HF02)

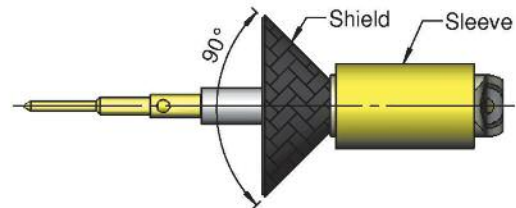


	Cable ØA	Body ØB	Sleeve ØC	Contact ØD	Central crimp DANIELS MH800		Hexagonal imprint E sleeve crimp DANIELS HX3 tool				
					Positioner K1131		Die C13847			Die C14680	
					Conductor Ø 0,3	Conductor Ø 0,5	Hex.1,9	Hex.2,4	Hex.2,8	Hex.3,25	Hex.4
30-x320-SS	2 mm	1 mm	2,2 mm	0,5 mm	Position 2 / 3	Position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

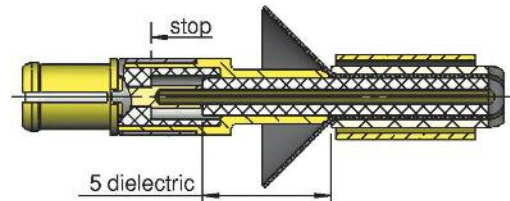
1 - Mount the inner contact on the conductor and solder or crimp.
(crimping with DANIELS MH800 positioner K1131)



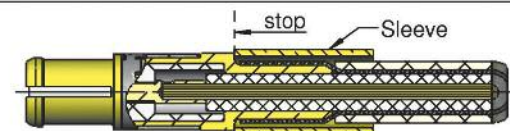
2 - Thread the sleeve onto the cable and bent the shield at 90°.



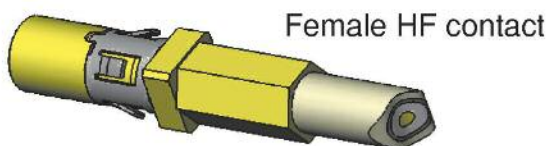
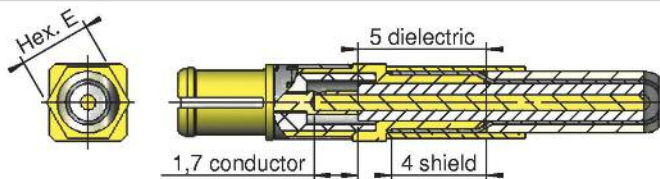
3 - Push until stop inside the body.



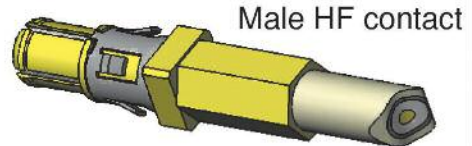
4 - Thread the sleeve until stop on the body so as to bent the shield.



5 - Crimp the sleeve



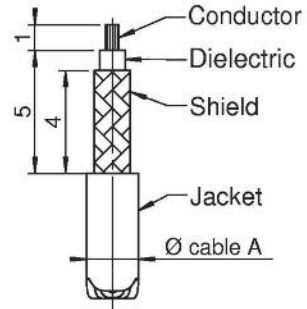
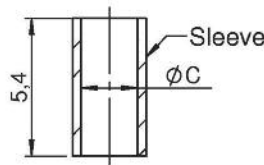
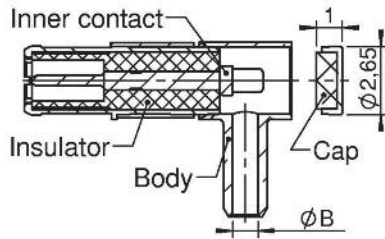
Female HF contact



Male HF contact

Cable instructions (IC30HF03)

Example with male HF contact



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

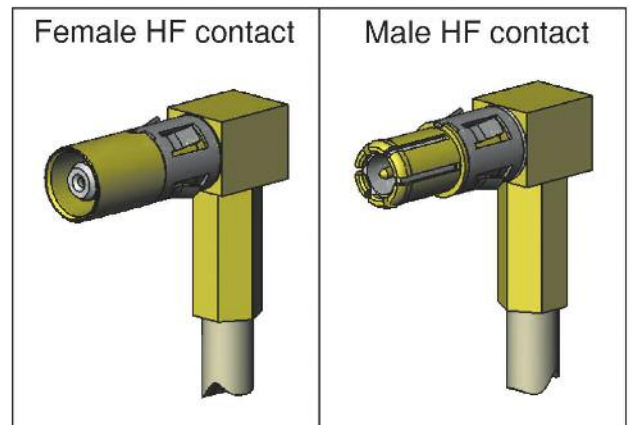
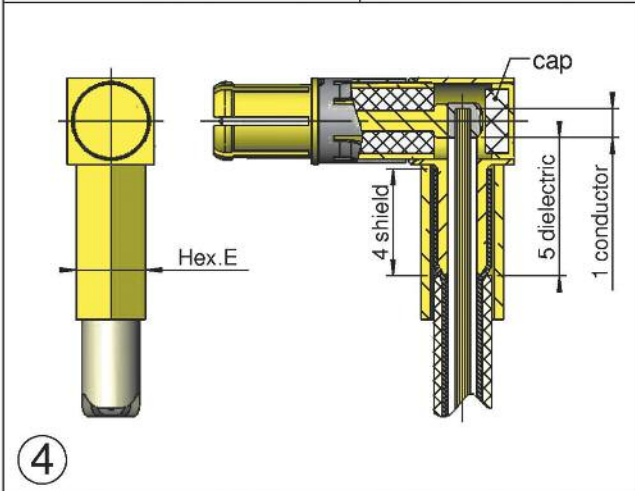
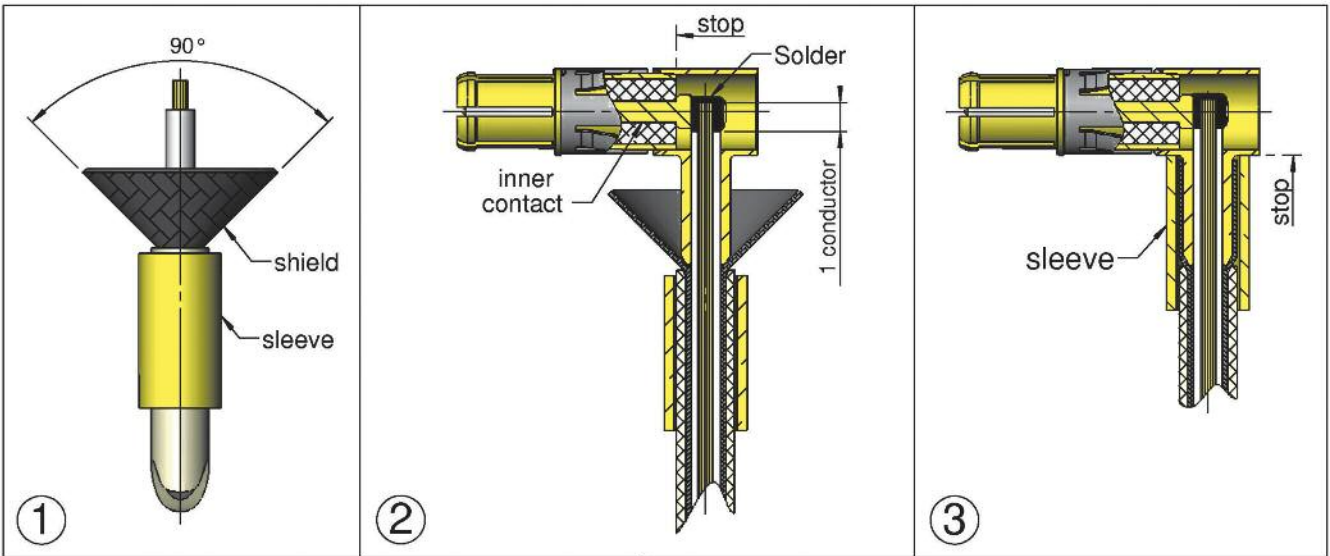
2 - Place the inner contact until stop in the body. Insert the cable and solder the conductor onto the inner contact

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

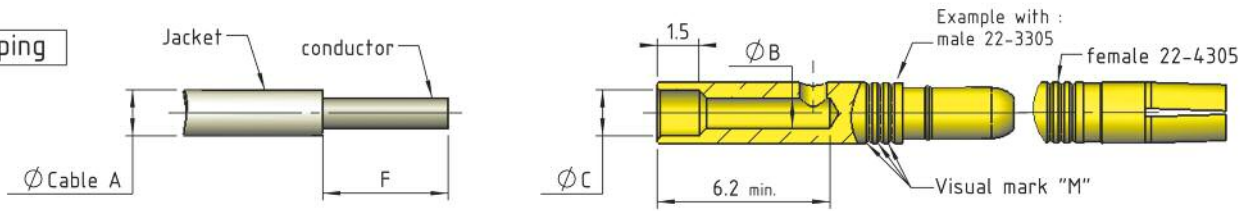
Hexagonal imprint E sleeve crimp DANIELS HX3 tool

	Cable ØA	Body ØB	Sleeve ØC	Contact	Die CI3847			Die CI4680	
					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	



Cable instructions (IC22HP02)

Stripping



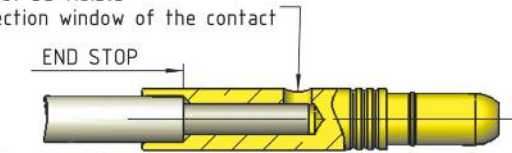
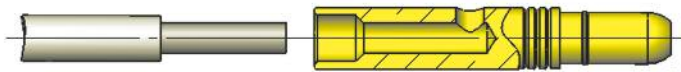
Loaded	Unloaded	Cable A			ØB	ØC	Length F conductor	M	Solder	Crimp by AF8 Tool / Positioner	Crimp tool setting - Number selector		
		AWG20	AWG18	AWG16							AWG20	AWG18	AWG16
3305	22-3305	X	NA		1.1 mm	1.65 mm	4.5 mm	x3		16459 / C16461	4		NA
3308	22-3308	NA	X	NA	1.35 mm	1.85 mm	4.5 mm	x2	OK		NA	5	NA
3310	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 AF8 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		16459 / C16461	4		NA
4308	22-4308	NA	X	NA	1.35 mm	1.85 mm	4.5 mm	x2	OK		NA	5	NA
4310	22-4310		X		1.7 mm	NA	6 mm	x1			4	5	6

NA : Not Applicable

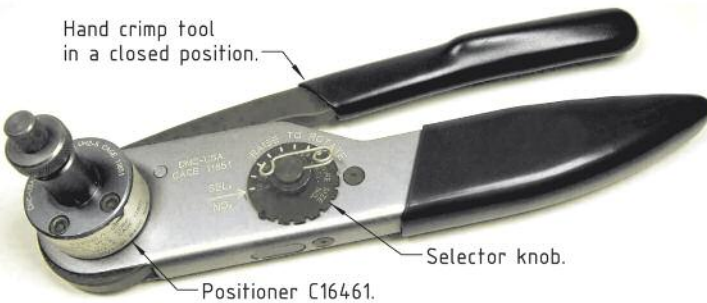
The conductor must be visible through the inspection window of the contact

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.

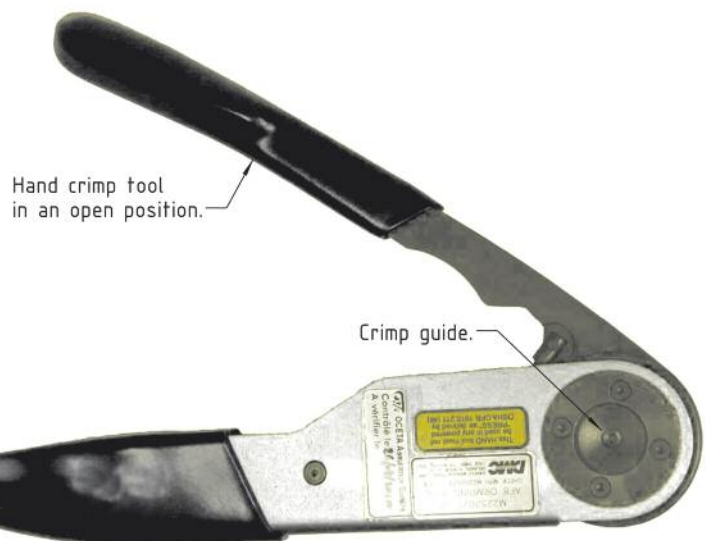
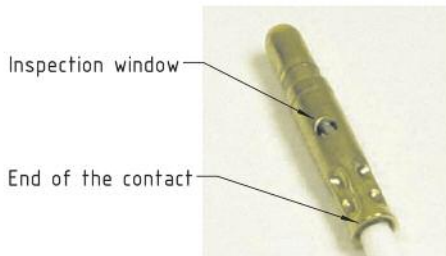


3 - Insert the contact and wire assembly in the crimp guide of the hand crimp tool.

- 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

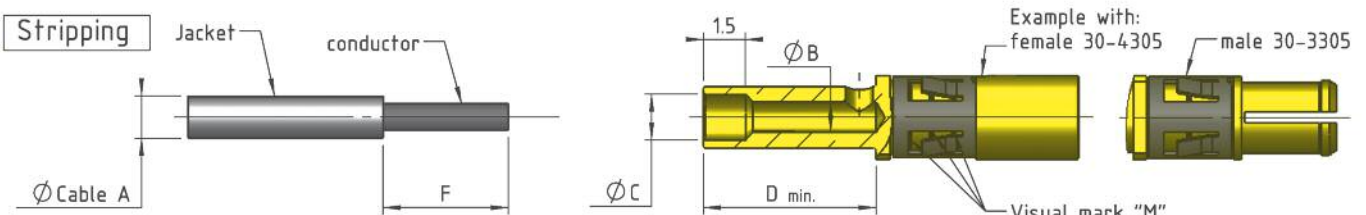
- 4.1 - Crimping must not deform the inspection window.
- 4.2 - Contact must not have visible fractures or cracks.
- 4.3 - Contact barrel must not be deformed or bent.
- 4.4 - Crimping must not deform the end of the contact.



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 AF8 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	6.2 mm	x3	16459 / C16460	3	NA				
3308	30-3308	NA	X		NA		1.35 mm	1.85 mm	6 mm		x2			NA	4	NA		
3310	30-3310		X		NA		1.7 mm	NA	6 mm	x1	OK	16459 / C16460	4	4	5	NA		
3315	30-3315			X	NA		2 mm		5.3 mm	5.5 mm	NA				NA		6	NA
3320	30-3320			NA	X		2.6 mm								NA	8		

Loaded	Unloaded	Cable A					ØB	ØC	Length F conductor	Length D hole	M	Solder	Crimp by AF8 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	6.2 mm	x3	16459 / C16460	3	NA				
4308	30-4308	NA	X		NA		1.35 mm	1.85 mm	6 mm		x2			NA	4	NA		
4310	30-4310		X		NA		1.7 mm	NA	6 mm	x1	OK	16459 / C16460	4	4	5	NA		
4315	30-4315			X	NA		2 mm		5.3 mm	5.5 mm	NA				NA		6	NA
4320	30-4320			NA	X		2.6 mm								NA	8		

NA : Not Applicable

1 - Insert the cable into the contact

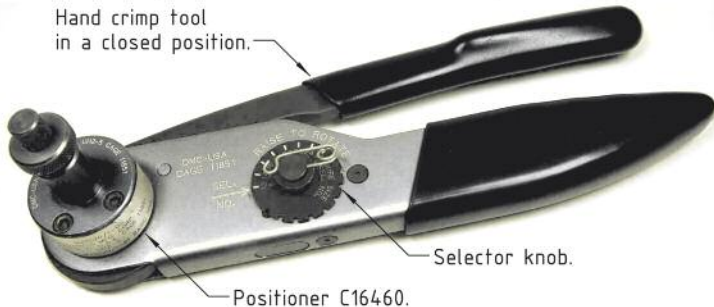


END STOP only for 30-X310, 30-X315 and 30-X320

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.

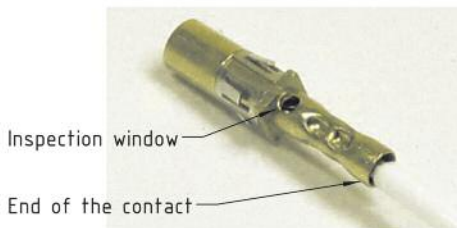


3 - Insert the contact and wire assembly in the crimp guide of the hand crimp tool.

- 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

Hand crimp tool in an open position.



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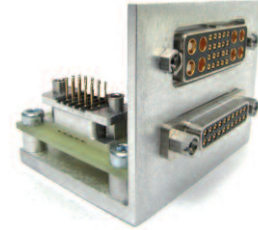
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Manufacturer and designer of innovative interconnect solutions



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



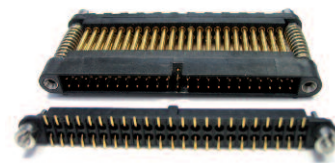
MICROFLEX HARNESS SOLUTION

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.



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