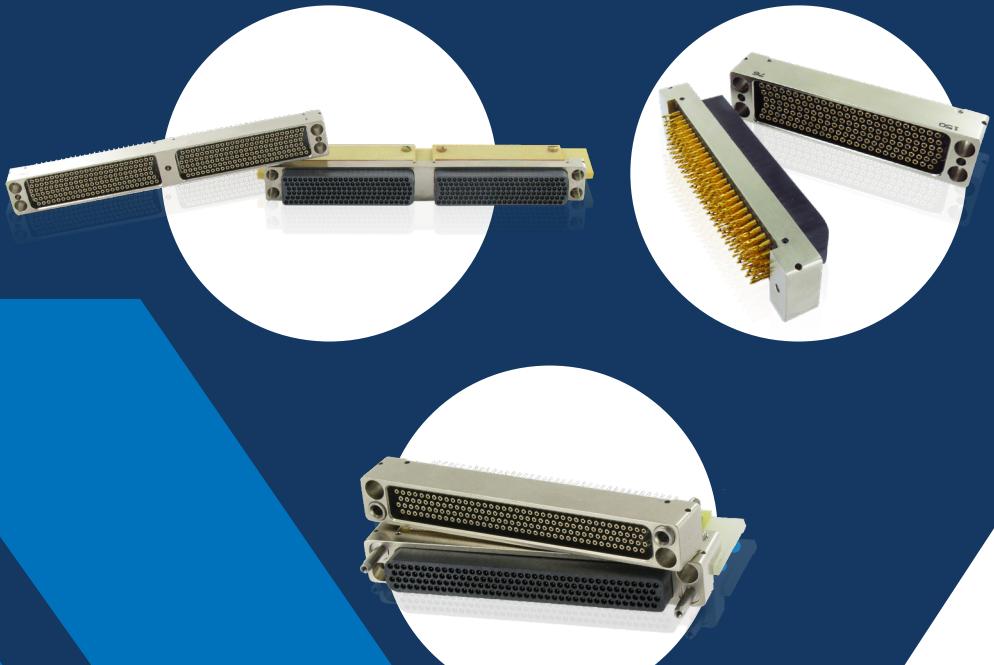




PCB CONNECTORS SMASH CONNECTOR



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OUR RESOURCES

Access everything you need to simplify your projects. More than just a technical guide, our catalog opens the door to a multitude of services and practical tools. All the information below is available on our [website](#) or by clicking on the digital PDF.



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EXPORT CONTROL CLASSIFICATION

OUR OFFER

38999 SERIES



RUGGED ETHERNET, USB & DISPLAY CONNECTORS



2M MICRO MINIATURE



ACCESSORIES



PT/451 - 26482 SERIES



SL61 & SOCA



RFM SERIES



PCB CONNECTORS



FIBER OPTIC SOLUTIONS



CONTACTS



ETHERNET SWITCH & MEDIA CONVERTER



USB KEYS & EXTENDERS



PS SERIES : Power Devices Solutions



CORDSETS & JUMPERS



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HARNESS IN THE BOX



CUSTOMIZED PRODUCTS AND SOLUTIONS

From cable assembly to customized solutions, we're here to add value to your projects.
We look forward to hearing from you.

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OUR COMPANY

Since 1947, Amphenol Socapex has prescribed, designed and manufactured reliable and innovative interconnection solutions for harsh environments, specializing in standard and customized electrical and fiber optic connectors, contacts, accessories and cabling solutions.

Amphenol Socapex, based in the Mont Blanc region of France and with operations in India and Tunisia, has a global presence in over 100 countries.

OUR MARKETS



BATTLEFIELD
COMMUNICATION



GROUND
VEHICLES



MILITARY AIRCRAFT /
STRUCTURE



COMMERCIAL
AVIATION



OTHERS



TECHNOLOGIES & INNOVATIONS

RESEARCH & DEVELOPMENT



- » **ENGINEERING LABORATORY:** 320m² state-of-the-art facilities in France and India with advanced testing and analysis equipment.
- » **EXPERTISE:** 30+ specialists handling 300+ product tests and 1,400+ metrology requests annually.
- » **TECHNOLOGY:** Plating engineering, material development, high voltage analysis, 3D EM simulation, fiber optics, and assembly.
- » **METROLOGY:** Internal verification of the conformity of measuring instruments and ensuring that our measurement management system complies with the recommendations of ISO 10012.

OUR WORKSHOPS



Our workshops located in France & India provide consistent quality adapted to your volume requirements.

- » **MOLDING:** Solid expertise in thermoplastic elastomer and thermoset molding
- » **MACHINING:** Manufacturing of cylindrical shells and rectangular shells
- » **SCREW MACHINING:** Manufacturing of electrical contacts
- » **PLATING:** Plating with cadmium, nickel, electroless nickel, silver, black zinc nickel, gold
- » **ASSEMBLY:** Connector and harness assembly (electrical & optical)
- » **AUTOMATION & TOOLING:** Tools for our different activities : molding, machining, assembly

JOIN US ! WE'RE HIRING

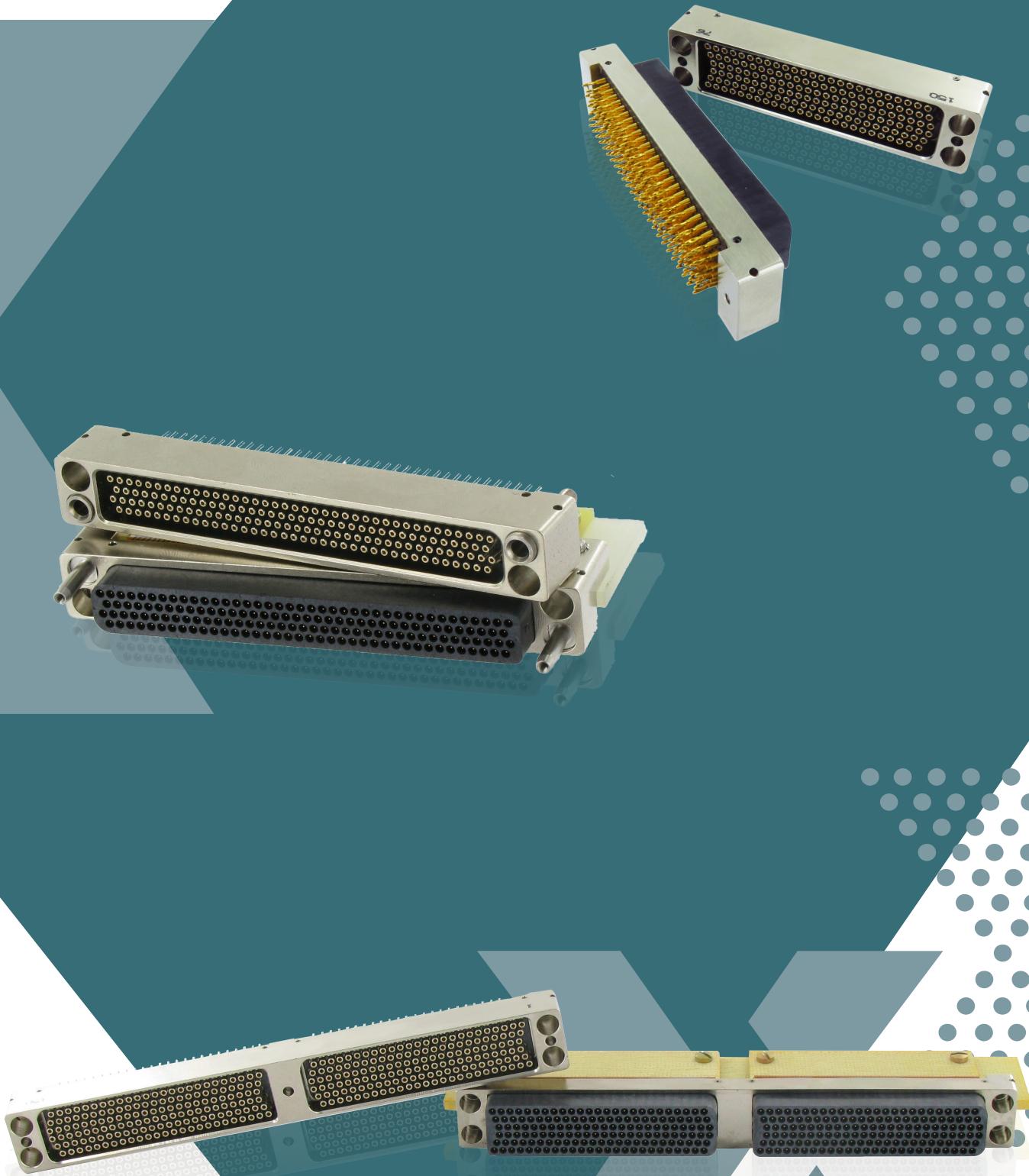


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SMASH

Advanced LRM connector

- Ruggedization
 - Aluminium shell for electrical enhancements
 - Designed for severe mechanical environments
 - Excellent mechanical & electrical reliability
- High pin counts up to 450 contacts per connector
- Flexible termination on the plug, short layout on the daughterboard
- Mezzanine or right angle board to board connection



GENERAL CHARACTERISTICS - SMASH

Advanced LRM connector



High density modular connector for the most demanding applications

- Aluminium shell for electrical enhancements
- Designed for severe mechanical environments
- Excellent mechanical & electrical reliability
- High pin counts up to 450 contacts per connector
- Flexible circuit termination on the plug for short layout on the daughterboard
- Mezzanine or right angle board to board connection

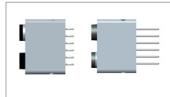
Main features

CONCEPT

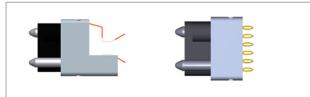
- 1 metallic shell: equipped with electrical insert
- 2 guides per connector
- 2 keying devices per connector
- Advanced mechanical robustness
- SEM E form factor
- Flexible circuit termination: compatible with daughter boards of various thicknesses
- 32 keying possibilities

Contact terminations

Female

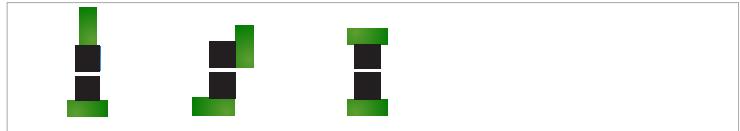


Male

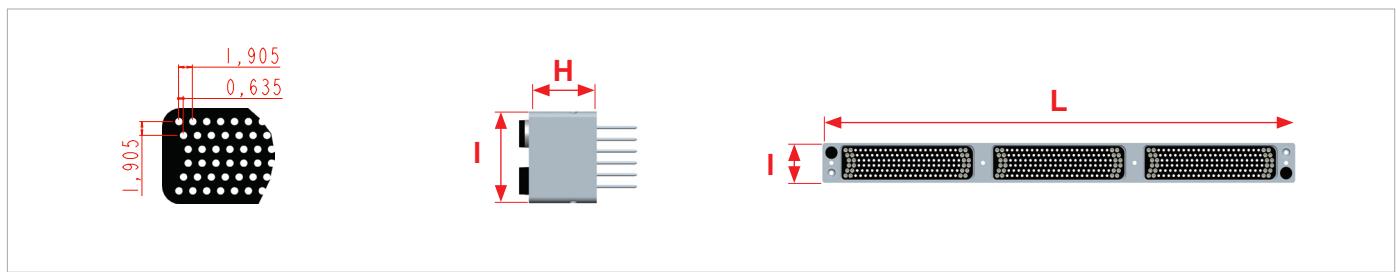


Recommended configurations

Mother board to daughterboard / Mezzanine

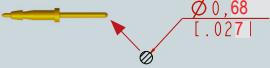


Overall dimensions



	Plug	Receptacle
H	7,4 [.291]	10,9 [.430]
L	58,5 to 180,2 _{MAX} [2.303 to 7.094]	58,5 to 180,2 _{MAX} [2.303 to 7.094]
I	14,8 _{MAX} [.583]	14,8 _{MAX} [.583]

GENERAL CHARACTERISTICS - SMASH

STANDARD / APPROVALS <ul style="list-style-type: none"> Exceed some MIL DTL 55302 requirements 	TYPE OF CONTACTS <ul style="list-style-type: none"> 3A per signal contact / DWV: 1000Vrms Starclip socket technology 1,2mm [.0472] electrical security 	CONNECTOR TYPES <ul style="list-style-type: none"> E = Female receptacle F = Male plug
CONTACT DENSITY <ul style="list-style-type: none"> Ultra high density: chevron grid pattern 1.905[.075] spacing along the row with 1.905 [.075] between rows, offset 0.635 [.025] 	NUMBER OF ROWS <ul style="list-style-type: none"> 6 rows: 132 or 150 contact inserts 	ARRANGEMENTS <ul style="list-style-type: none"> 1 bay: 132 or 150 contacts 2 bays: 264 or 300 contacts 3 bays: 396 or 450 contacts
FEMALE CONTACT  <ul style="list-style-type: none"> 6 contact tines Excellent mechanical and electrical reliability Better resistance to high vibrations Improved electrical conductivity 100% compatible with other connectors 	MATERIALS <p>Female contact</p> <ul style="list-style-type: none"> Hood: machined brass alloy Clip: CuBe, stamped and formed <p>Male contact</p> <ul style="list-style-type: none"> Machined brass alloy <p>Shell</p> <ul style="list-style-type: none"> Aluminium, Electroless nickel <p>Guiding devices</p> <ul style="list-style-type: none"> Stainless steel 303, Passivated <p>Plastic insert & keying devices</p> <ul style="list-style-type: none"> Thermoplastic LCP, 30% glass-fiber filled 	PLATING <p>Female contact</p> <ul style="list-style-type: none"> Hood: tin lead or lead free Clip: gold over Nickel <p>Male contact</p> <ul style="list-style-type: none"> Gold over Nickel
MALE CONTACT <p>Mating end diameter</p> <ul style="list-style-type: none"> Ø 0.68[.027] 		

Technical specifications

Mechanical characteristics	SMASH	MIL-DTL-55302 sections
Backoff¹ (mm)	1,2 _{MAX} [.047]	-
Mating force per contact (N)	1 N	§ 4.5.4
Unmating force per contact (N)	0,4 N	§ 4.5.4
Durability cycles	500	§ 4.5.9
Sinusoidal vibrations (10 to 2000 Hz) micro discontinuity 2ns	15 g	§ 4.5.10
Random vibrations (5 to 2000 Hz) micro discontinuity 2ns	2,682 g ² / Hz	EFA gunfire requirement
Shocks 6ms ½ sinus 2ns	100 g / 6s	§ 4.5.14
Recommended tightening torques - Nuts for M2.5 screws, brass (m.N) - Nuts for M2 screws, brass (m.N)	0,25 0,2	/
Environmental characteristics		
Thermal shocks (°C) Cycles	-65 / + 150 5	§ 4.5.13
Salt Spray (hours)	96	§ 4.5.11
Electrical characteristics		
Current rating per contact (A)	3 _{MAX} 2 for 154 and 308 version	§ 4.5.5
Insulation resistance (GΩ)	5 _{MIN}	§ 4.5.8
Contact resistance (mΩ)	10 _{MAX}	§ 4.5.12
Dielectric Withstanding Voltage (Vrms)	1000 _{MIN}	§ 4.5.7.1
Service Voltage (at 50Hz) (Vrms)	250	/

1: When both connectors are fully mated, the backoff refer to the maximum distance they can be unmated while functioning properly

SIGNAL CONTACTS

Female contacts for receptacle

Straight PC tail

- Thru hole soldering
- Mother board or mezzanine connection

YD



Press fit / compliant

- For solderless assembly
- Mother board or mezzanine connection

YP



Contact type	L	Termination section	PCB thickness	Standard termination plating $\mu\text{m} [\mu\text{in}]$	RoHS Termination plating $\mu\text{m} [\mu\text{in}]$
YD	6,5[.256]	0,48 _{MAX} [.019]	5,5 _{MAX} [.217]	3[.118] Ni + 10[.394] SnPb	2,5[.098] Ni + 5[.197] bright pure Sn
YP	3,2 _{MIN} [.118]	0,73 [.029]	2,5 _{MIN} [.098]	2[.079] Ni electrolytic + 15,2[.598] Ni electroless + 10[.394] SnPb	/

Male contacts for plug

Surface Mount Technology

- Flexible circuit double sided SMT mounting
- Daughter board or extender board

U01



Press fit / compliant

- For solderless assembly
- Mezzanine connection

YP



Straight PC tail

- Thru hole soldering
- Daughter board or mezzanine connection

YD



Solder cup

- Soldering on wire
- For test equipment only, not qualified for embedded applications
- Solder cup not oriented

Z

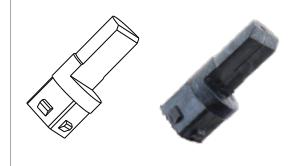


Contact type	L			Termination section	PCB thickness	
U01	$2,4 \pm 0,3 [.094 \pm .012]$			0,48 _{MAX} [.019]	$2,4 \pm 0,3 [.094 \pm .012]$	
YD	$4,4 \pm 0,2 [.173 \pm .008]$				5,5 _{MAX} [.217]	
YP	3,2 _{MAX} [.118]				/	
Z	$3 \pm 0,35 [.118 \pm .014]$	$5 \pm 0,35 [.197 \pm .014]$	$7 \pm 0,35 [.276 \pm .014]$	0,82 [.032]	/	

KEYING & GUIDING

Keying

- 2 keying per connector
- 4 positions per cavity
- 32 keying possibilities per mated pair
- Non assembled



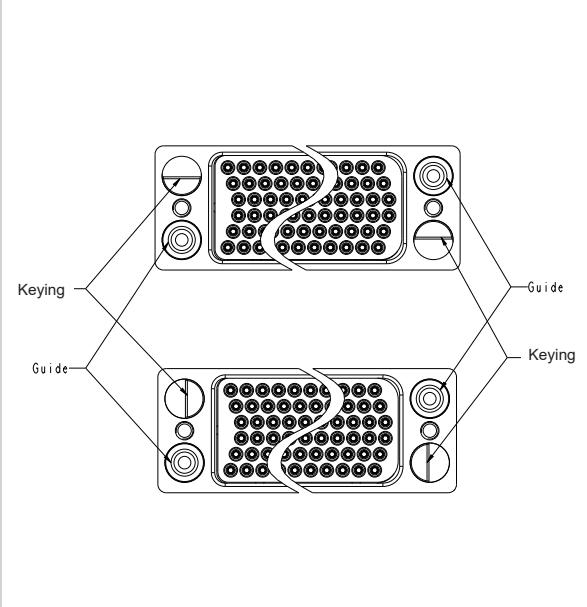
Male guides

- 2 guides per male connector
- Connectors are supplied with non-assembled guiding devices



Female guides

- 2 guides per female connector
- Connectors are supplied with non-assembled guiding devices



Mating sequence

Guiding	Insulator guidance	Keying	Contact engagement	Electrical contact	Mated connector

ARRANGEMENT & LAYOUT

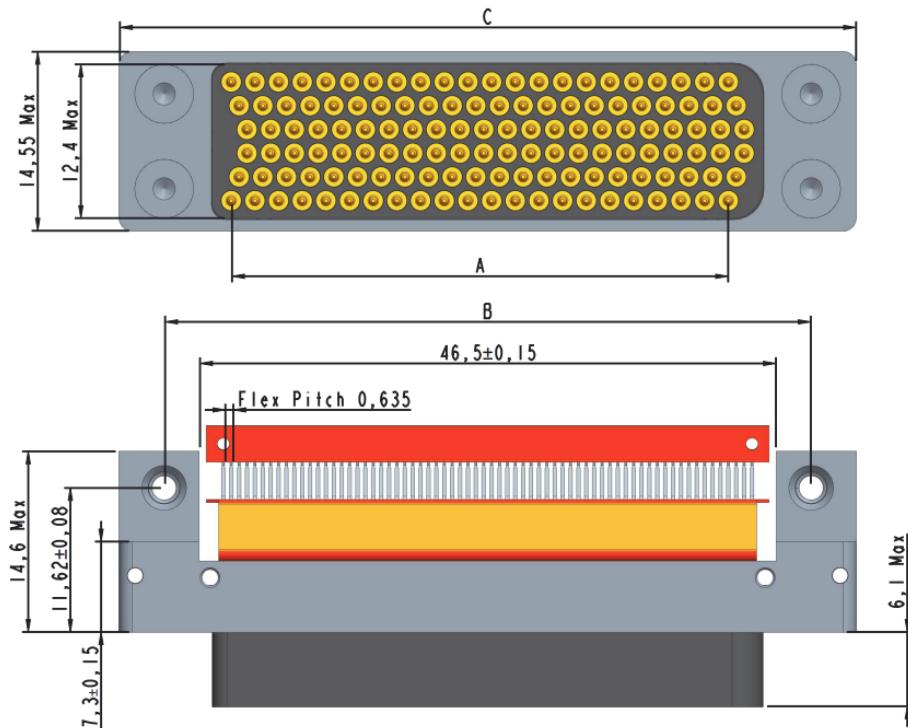
Plug - 132 & 150 contacts

SMT U01

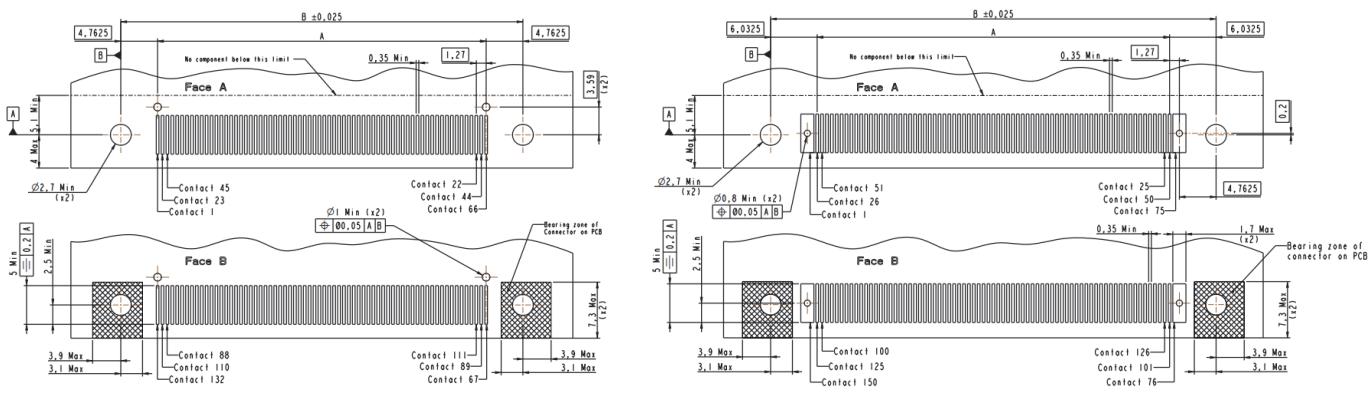
HDC F 132 U01-000

HDC F 150 U01-000

Arrangement



Layout



All dimensions are given for information only and are in mm, except as otherwise specified | *in mm: 1mm=0.03937 inch

ARRANGEMENT & LAYOUT

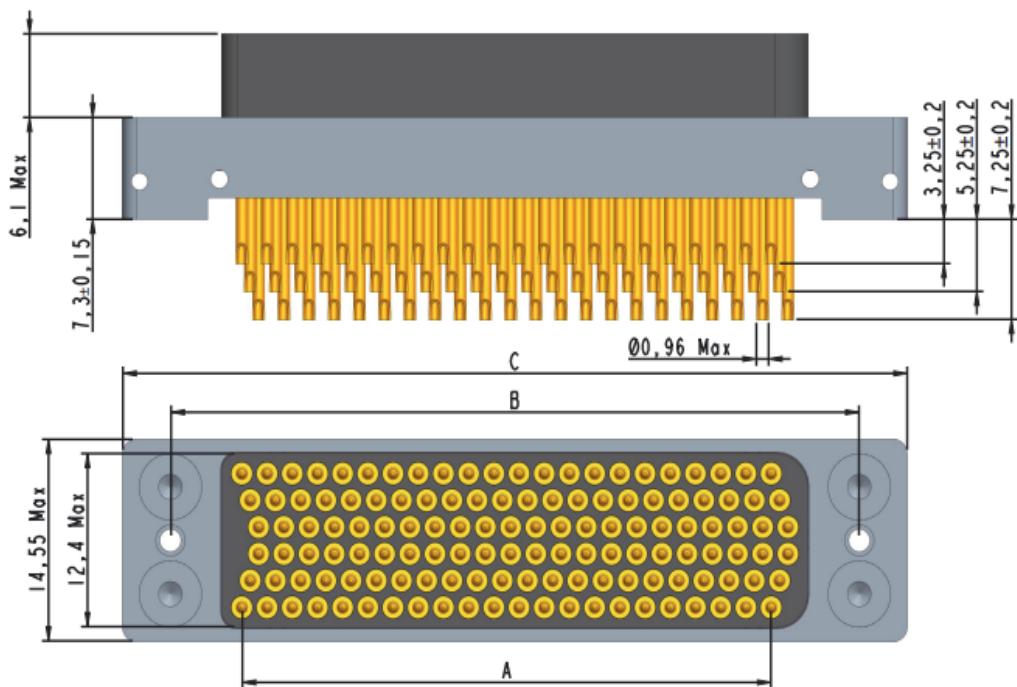
Plug - 132 & 150 contacts

Male solder cup

HDC F 132 Z-000

HDC F 150 Z-000

Arrangement



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ARRANGEMENT & LAYOUT

Plug - 132 & 150 contacts

Straight PC tail YD or press fit / compliant YP

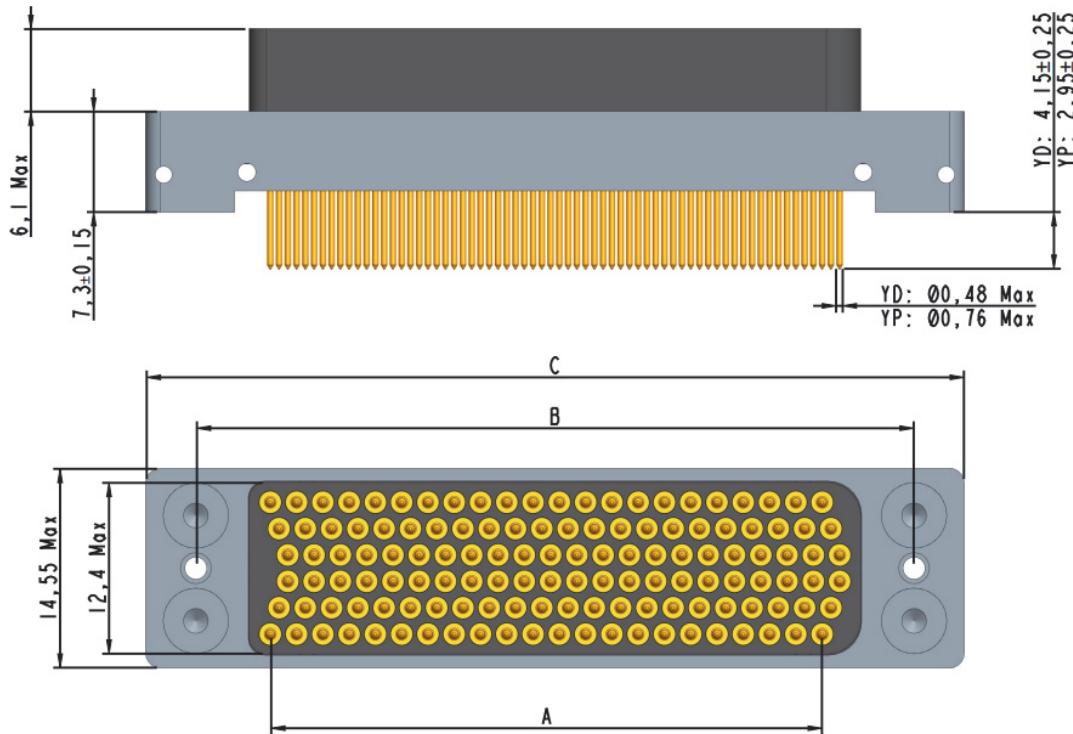
HDC F 132 YD-000

HDC F 150 YD-000

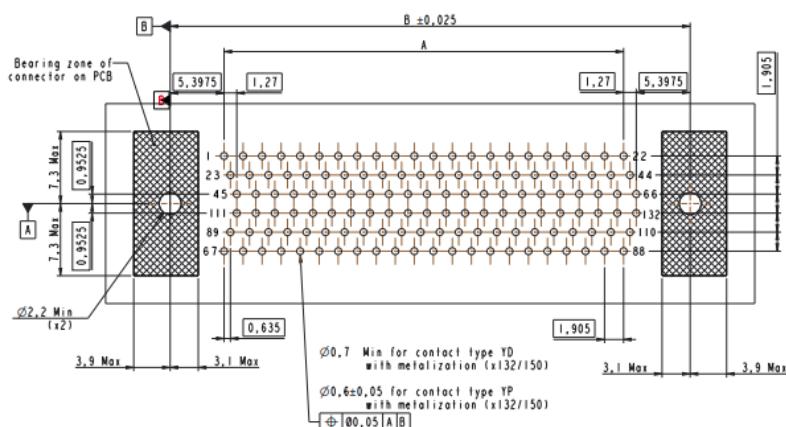
HDC F 132 YP-000

HDC F 150 YP-000

Arrangement



Layout



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ARRANGEMENT & LAYOUT

Receptacle - 132 & 150 contacts

Straight PC tail YD or Press fit / compliant YP

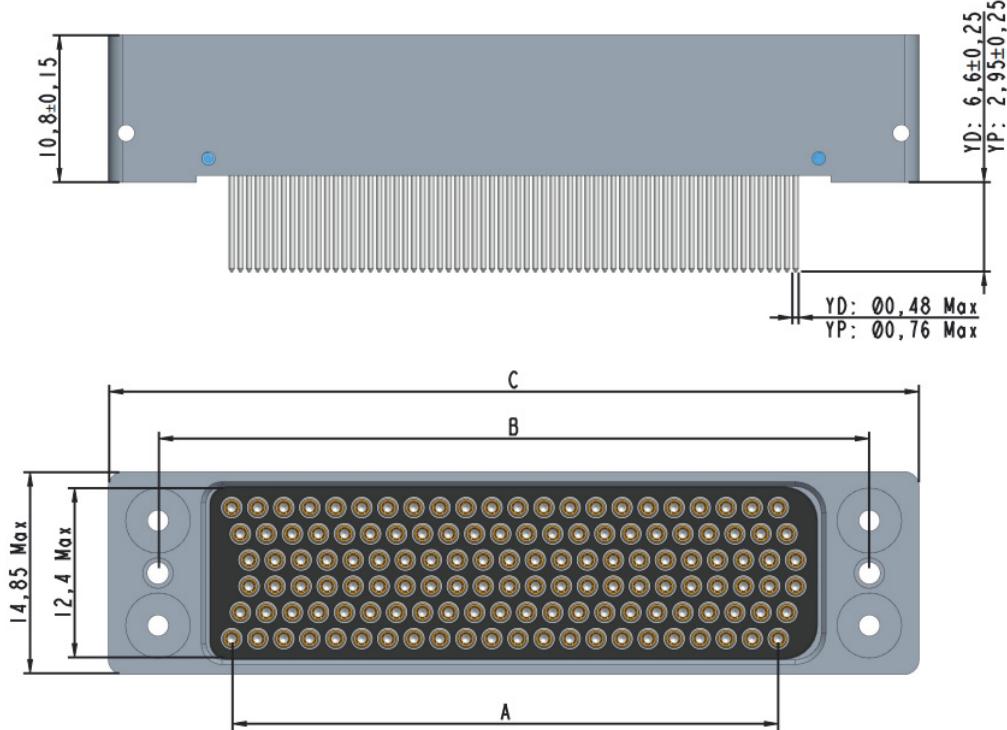
HDC E 132 YD-000

HDC E 150 YD-000

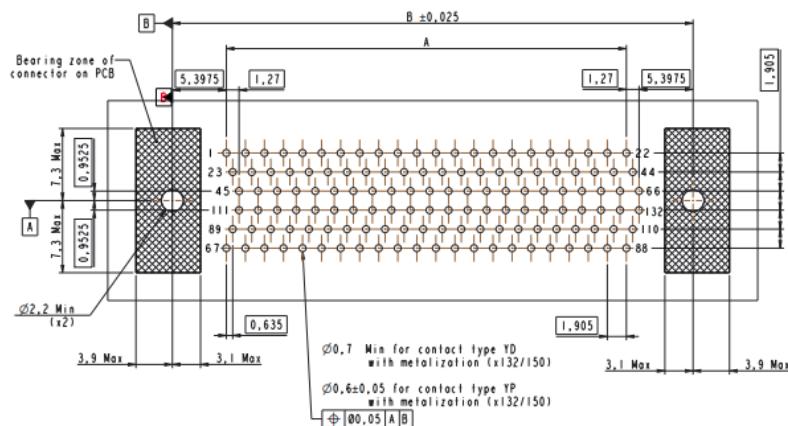
HDC E 132 YP-000

HDC E 150 YP-000

Arrangement



Layout



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ARRANGEMENT & LAYOUT

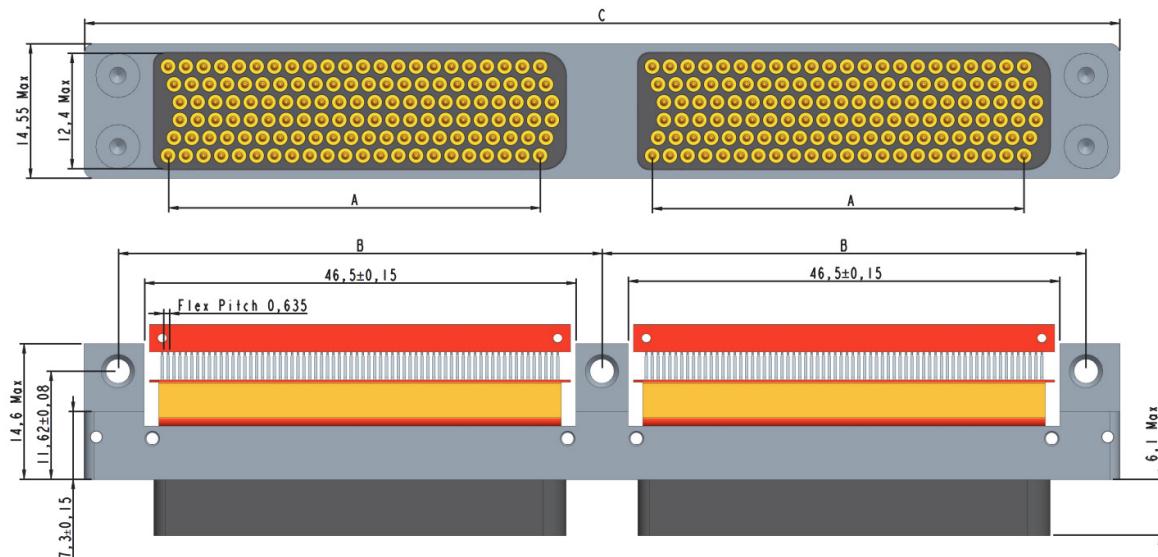
Plug - 264 & 300 contacts

SMT U01

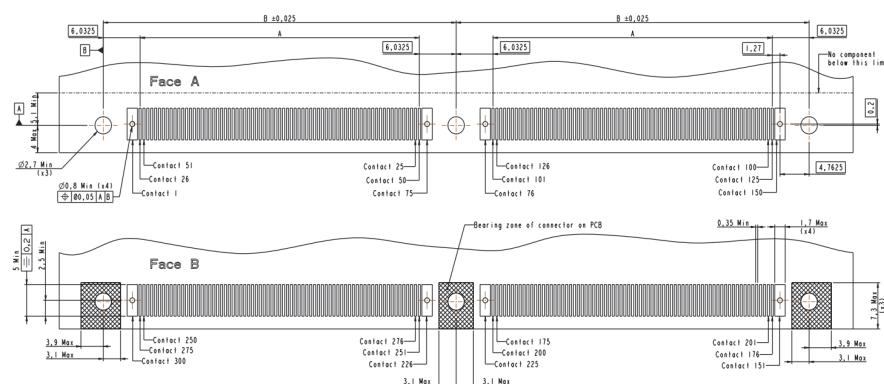
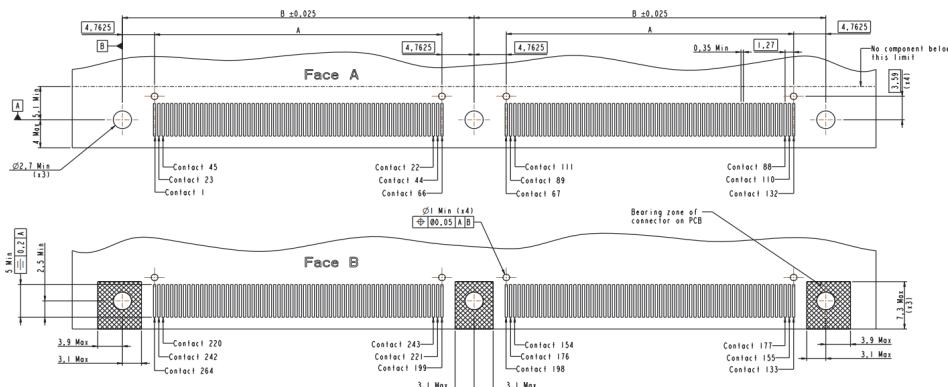
HDC F 264 U01-000

HDC F 300 U01-000

Arrangement



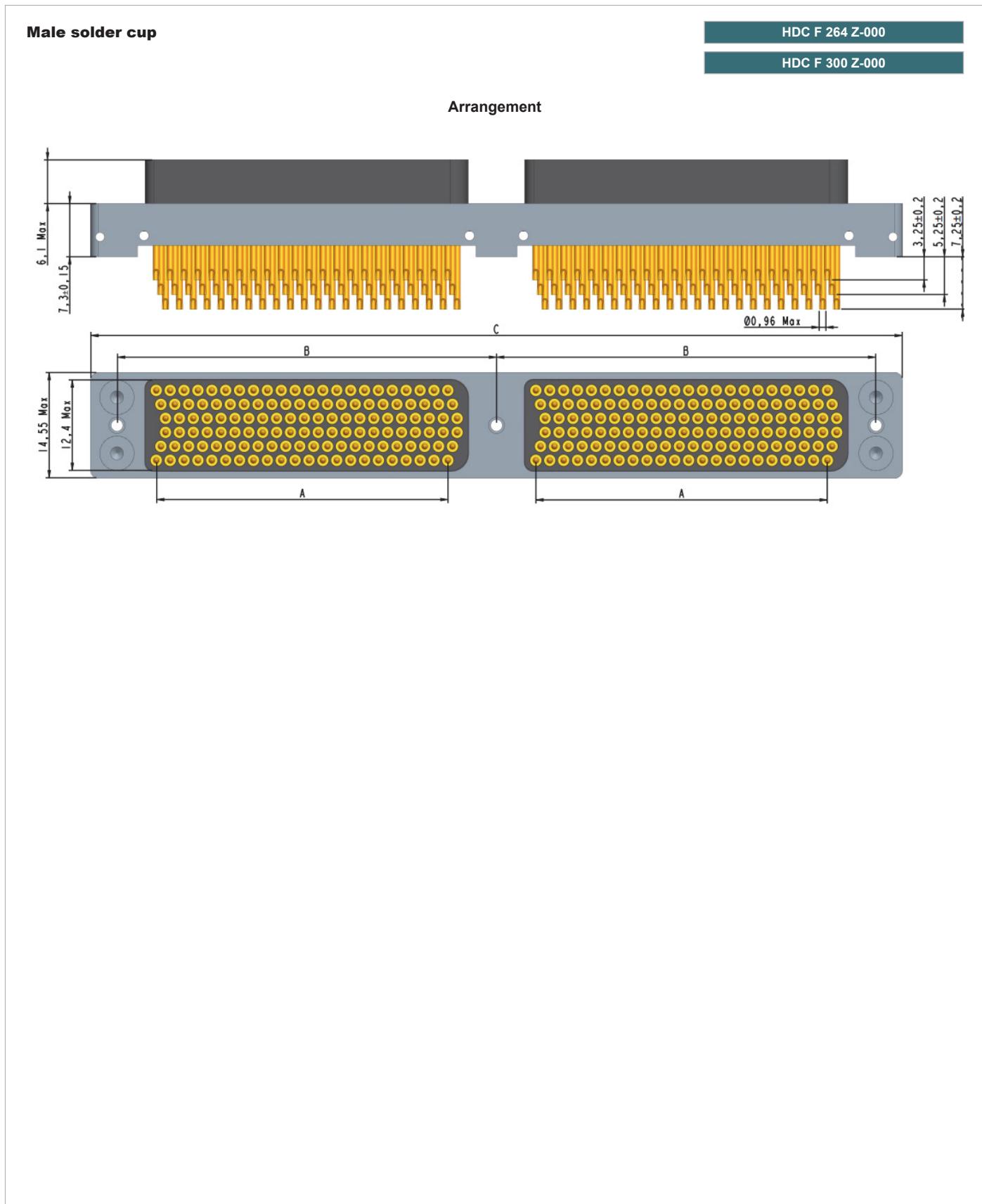
Layout



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ARRANGEMENT & LAYOUT

Plug - 264 & 300 contacts



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ARRANGEMENT & LAYOUT

Plug - 264 & 300 contacts

Straight PC tail YD or press fit / compliant YP

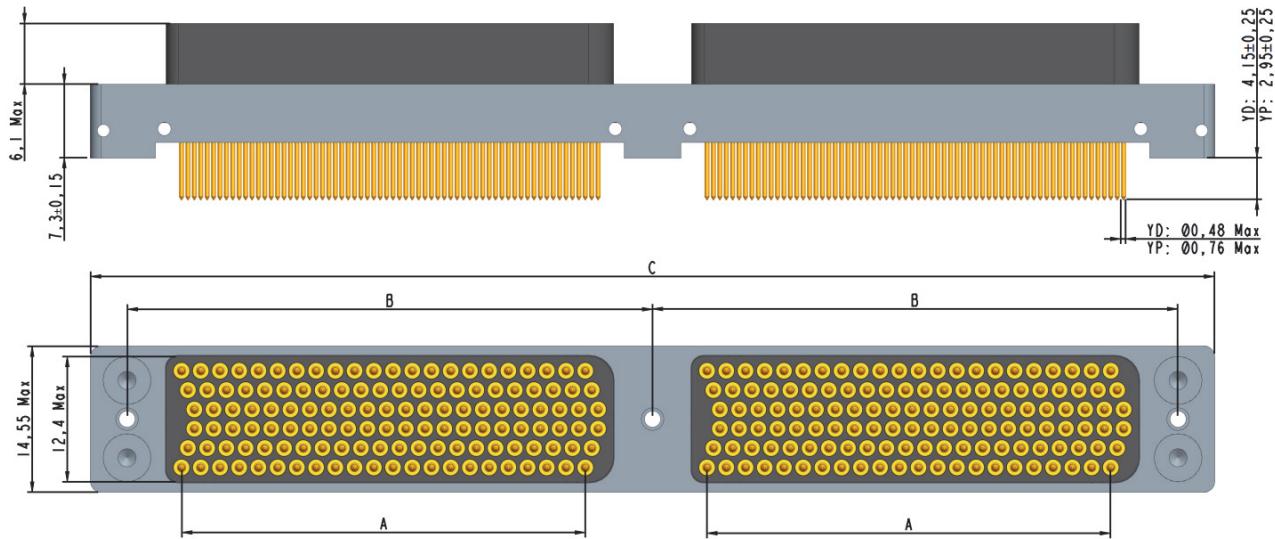
HDC F 264 YD-000

HDC F 300 YD-000

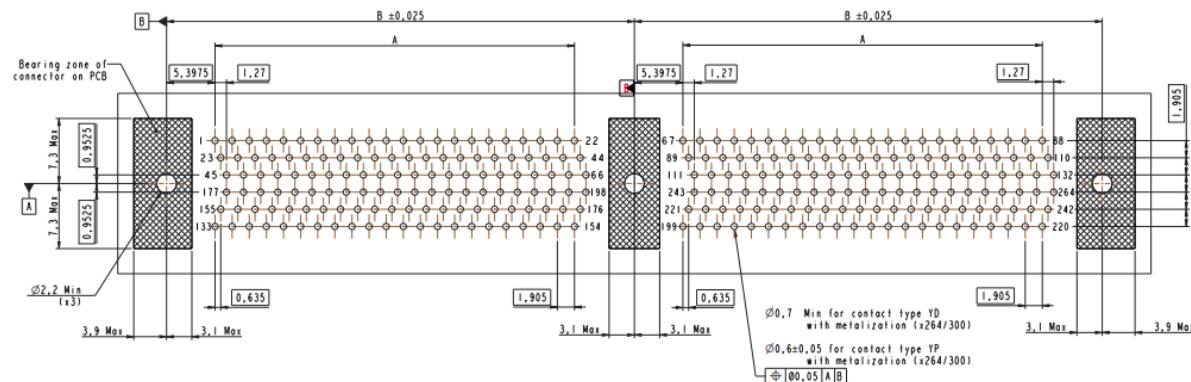
HDC F 264 YP-000

HDC F 300 YP-000

Arrangement



Layout



All dimensions are given for information only and are in mm, except as otherwise specified | *in mm: 1mm=0.03937 inch

ARRANGEMENT & LAYOUT

Receptacle - 264 & 300 contacts

Straight PC tail YD or press fit / compliant YP

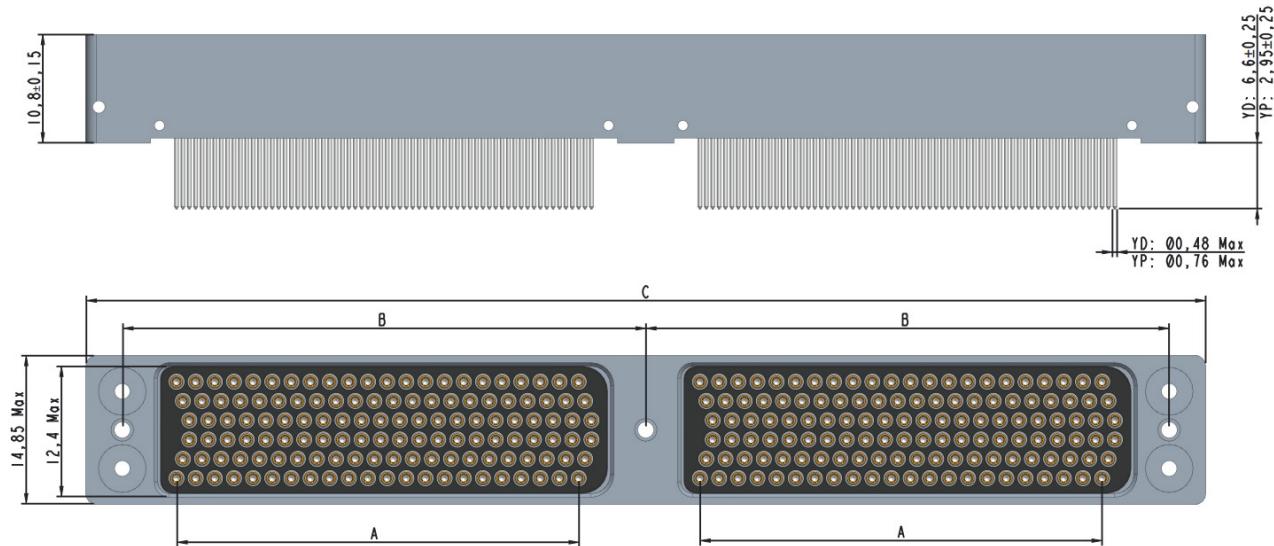
HDC E 264 YD-000

HDC E 300 YD-000

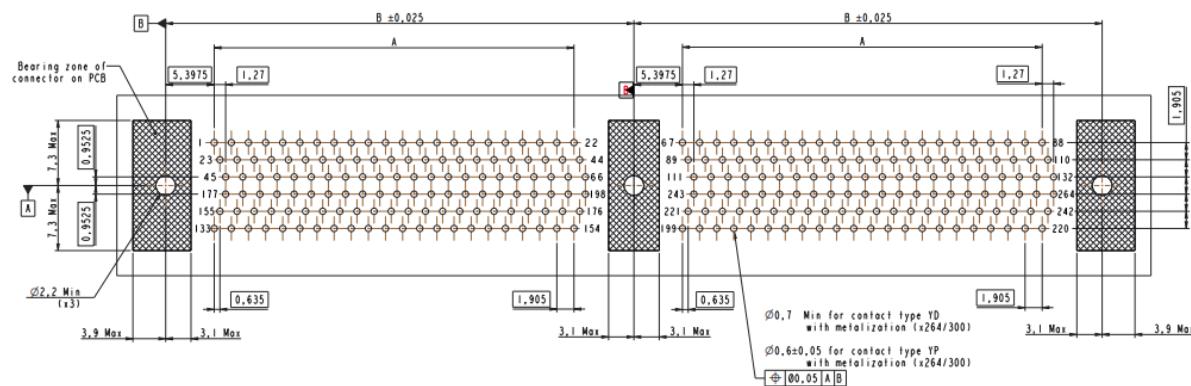
HDC E 264 YP-000

HDC E 300 YP-000

Arrangement



Layout



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ARRANGEMENT & LAYOUT

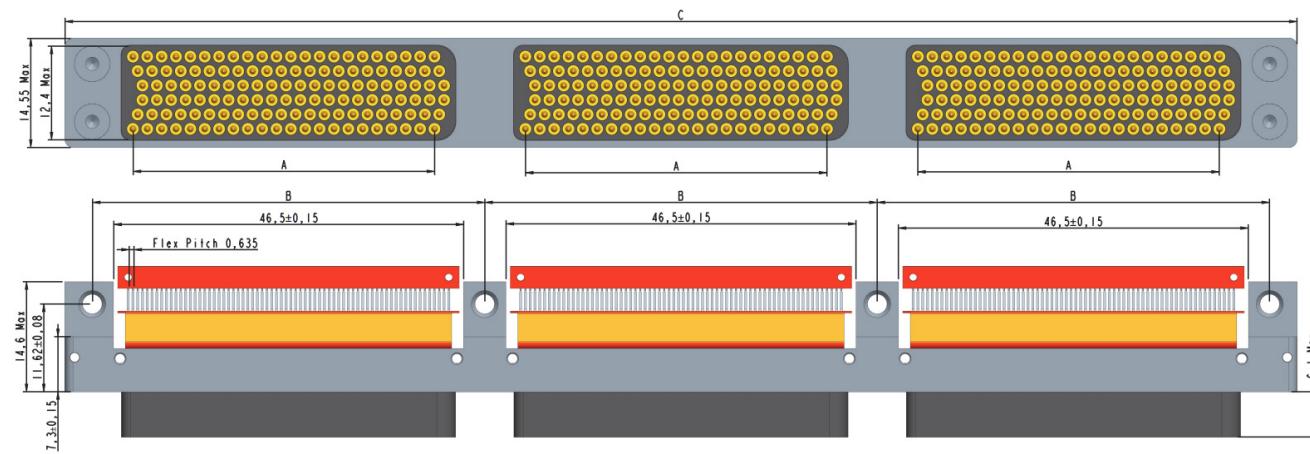
Plug - 396 & 450 contacts

SMT U01

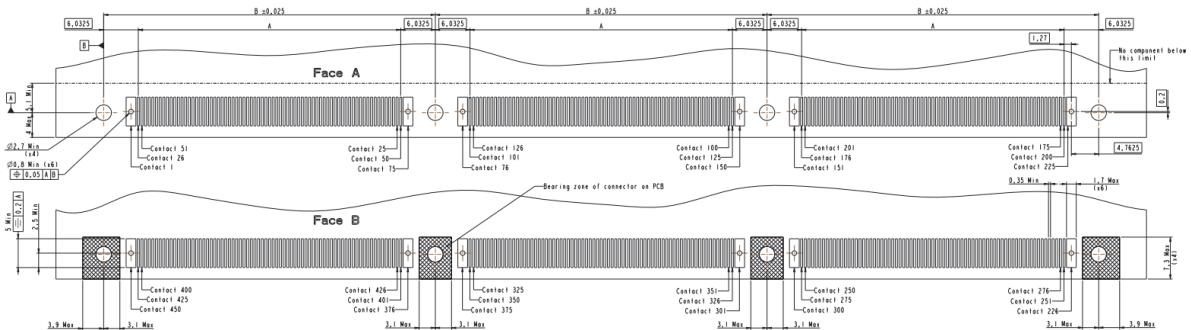
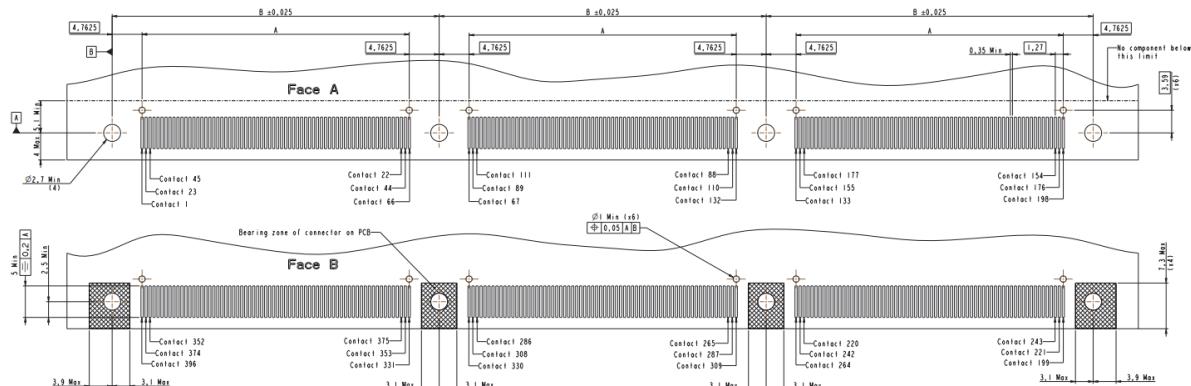
HDC F 396 U01-000

HDC F 450 U01-000

Arrangement



Layout



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ARRANGEMENT & LAYOUT

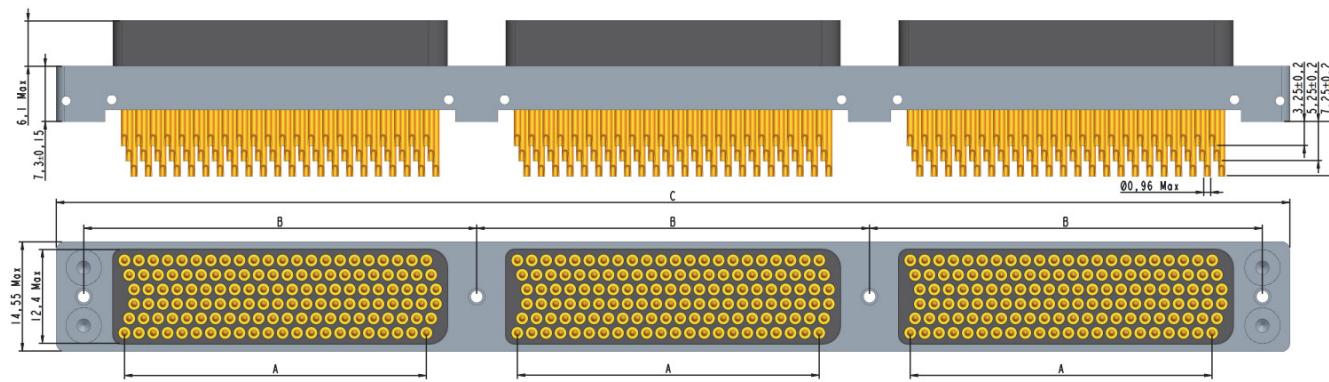
Plug - 396 & 450 contacts

Male solder cup

HDC F 396 Z-000

HDC F 450 Z-000

Arrangement



All dimensions are given for information only and are in mm, except as otherwise specified | *in mm: 1mm=0.03937 inch

ARRANGEMENT & LAYOUT

Plug - 396 & 450 contacts

Straight PC tail YD or press fit / compliant YP

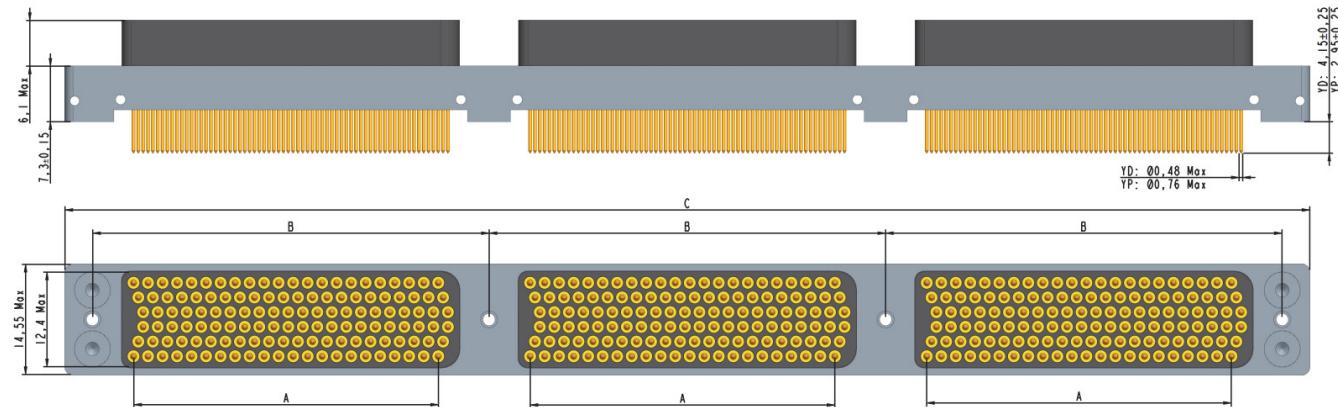
HDC F 396 YD-000

HDC F 450 YD-000

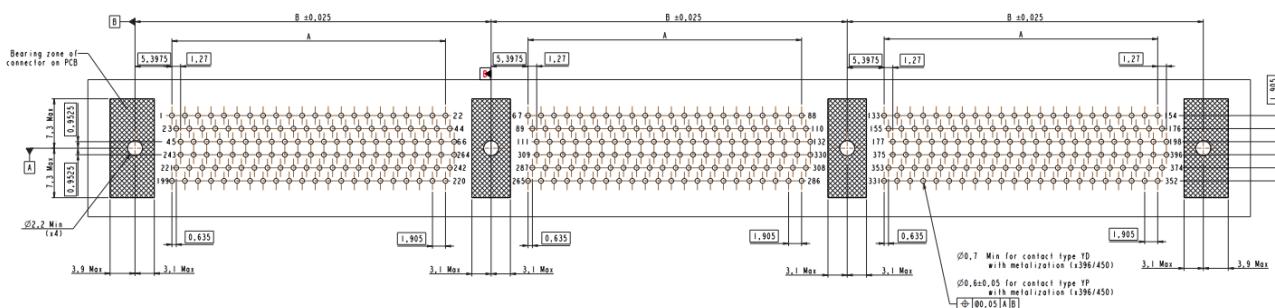
HDC F 396 YP-000

HDC F 450 YP-000

Arrangement



Layout



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ARRANGEMENT & LAYOUT

Receptacle - 396 & 450 contacts

Straight PC tail or press fit / compliant YP

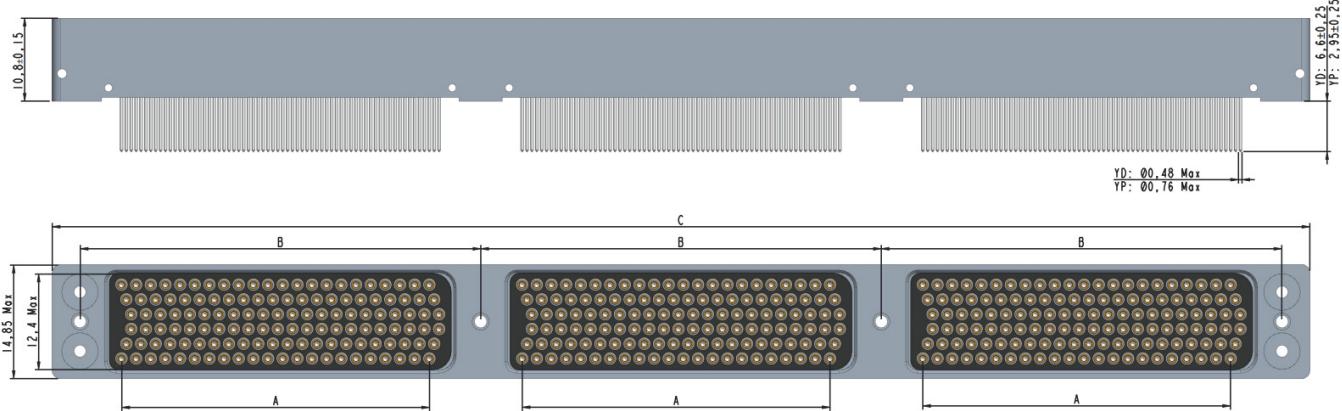
HDC E 396 YD-000

HDC E 450 YD-000

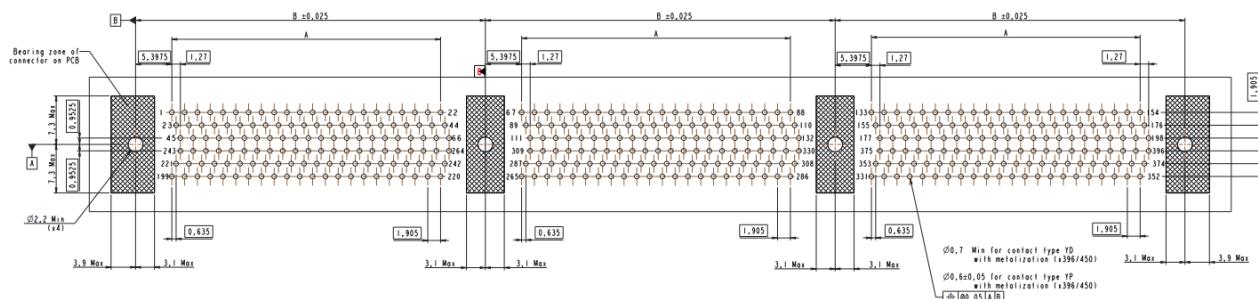
HDC E 396 YP-000

HDC E 450 YP-000

Arrangement



Layout



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OVERALL DIMENSIONS & WEIGHT

Dimensions

Number of contacts	132	150	264	300	396	450
A = Distance between pins (mm)	40,005	45,72	40,005	45,72	40,005	45,72
B = Distance between fittings (mm)	52,07±0,025	57,785±0,025	52,07±0,025	57,785±0,025	52,07±0,025	57,785±0,025
C = Distance between ends (mm)	59,5 Max	65,2 Max	111,6 Max	123 Max	163,7 Max	180,8 Max

Weight

Connector type	Number of contacts	Commercial designation*	Weight (in gram) ±15%
Receptacle	150	HDCE150YD-000	22
		HDCE150YP-000	
		HDCE150Z-000	
	264	HDCE264YD-000	38
		HDCE264YP-000	
		HDCE264Z-000	
	300	HDCE300YD-000	42
		HDCE300YP-000	
		HDCE300Z-000	
	396	HDCE396YD-000	54
		HDCE396YP-000	
		HDCE396Z-000	
	450	HDCE450YD-000	60
		HDCE450YP-000	
		HDCE450Z-000	
Plug	150	HDCF150U01-000	25
		HDCF150YD-000	
		HDCF150YP-000	
	264	HDCF264U01-000	39
		HDCF264YD-000	
		HDCF264YP-000	
	300	HDCF300U01-000	47
		HDCF300YD-000	
		HDCF300YP-000	
	396	HDCF396U01-000	60
		HDCF396YD-000	
		HDCF396YP-000	
	450	HDCF450U01-000	67
		HDCF450YD-000	
		HDCF450YP-000	

*Connector weights remain identical for LF versions

HOW TO ORDER - SMASH

1.	2.	3.	4.	5.	
Series	Connector type	Number of signal contacts	Contact termination type	Deviation	Contact tail finish (for YD female)
HDC	E	150	YD	-000	LF

1. Connector type

F	Plug (Male contacts)
E	Receptacle (Female contacts)

4. Deviation

-000	Standard
Consult us	Specific version (number of contacts, contact tail finish, specific assembly, ...)

2. Number of signal contacts

132	1 insert
150	
264	2 inserts
300	
396	3 inserts
450	

5. Contact tail finish (for YD female)

Blank	Standard, by default
LF	Lead free plating for YD female contact ✓

3. Contact termination type

	Male contact	Female contact
YD : Straight PC tail	Gold	Tin-lead or lead-free (See part 5.)
YP : Press fit / compliant	Gold	Tin-lead
U01 : SMT double sided	Pure-tin ✓	/
Z : Solder Cup	Tin-lead	/

✓ : RoHS compliant

NOTES

ABOUT AMPHENOL

Founded in 1932, **Amphenol** is one of the largest manufacturers of interconnect products in the world. The company designs, manufactures, and markets electrical, electronic, and fiber optic connectors, interconnect systems, and coaxial and specialty cables.

Amphenol has a diversified presence as a leader in high growth areas of the interconnect industry and provides solutions for customers in the automotive, broadband, industrial, information technology and data communications, military and aerospace, mobile devices, and mobile networks markets.

More info on www.amphenol.com

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USA	Amphenol NEXUS TECHNOLOGIES	50 Sunnyside Avenue - Stamford, CT 06902	+1 203 327 7300
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USA	Amphenol SV MICROWAVE	2400 Centrepark West Drive - West Palm Beach, FL	+1 561 840 1800
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