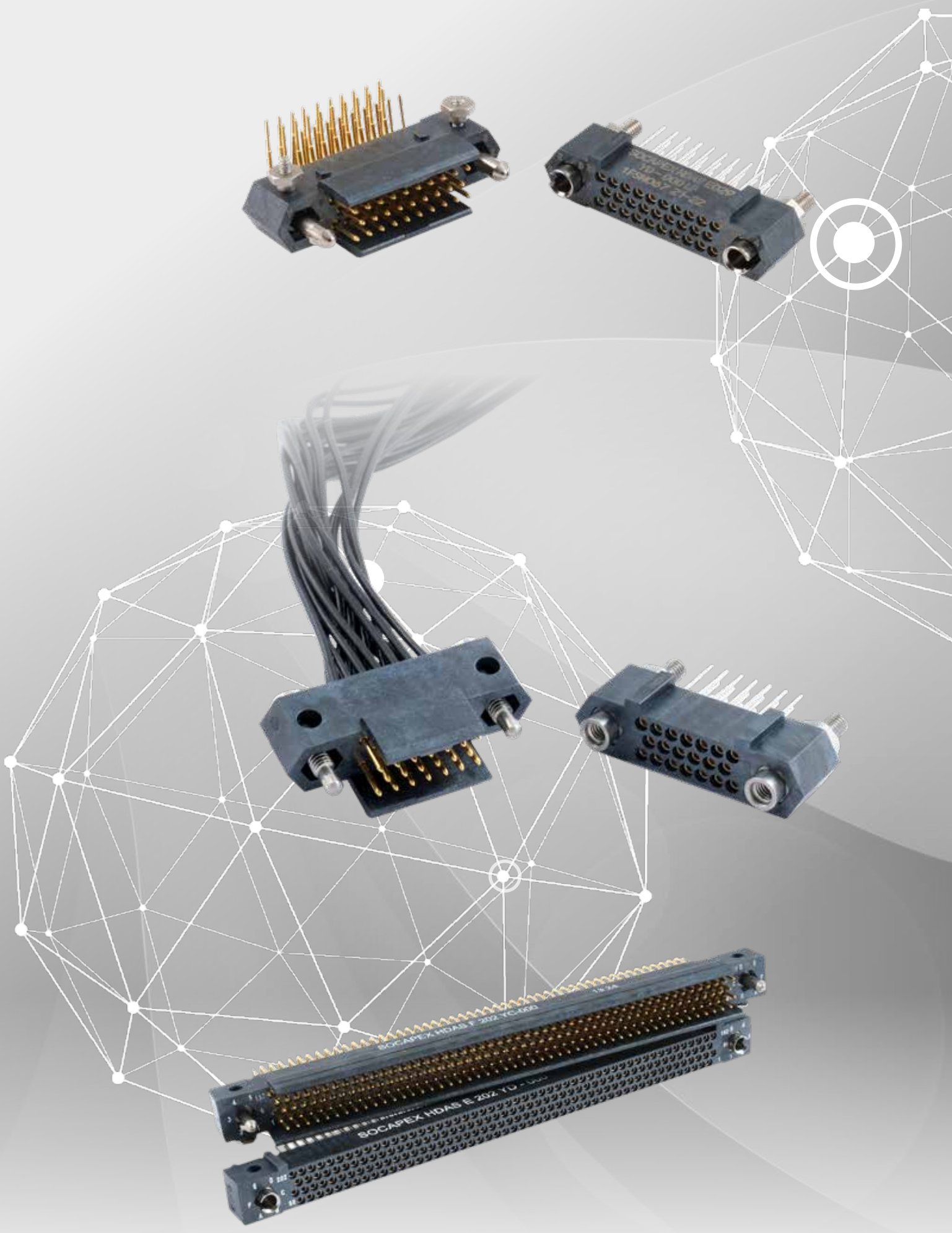
Amphenol SOCAPEX

HDAS

High-Performance & High-Density
1,905mm / .075" pitch PCB connector

www.amphenol-socapex.com


SOCAPEX HDAS E 202 YU - 000

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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.

CAD Files & Product Selector

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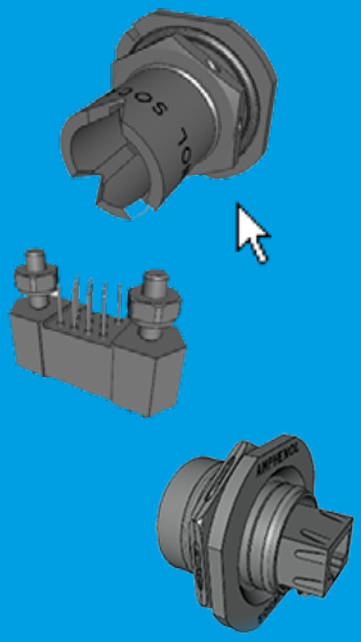

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Accessories

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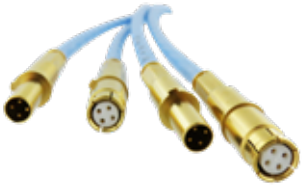
RFM Series

PCB Connectors

Fiber Optic Solutions

Contacts



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Cordsets & Jumpers

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Harness in the box

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Commercial Aerospace

Fadec/Engine control
Landing gear
Braking system
Display unit - Power unit
Actuator - Flight control system

Military Aerospace

Countermeasure
Power unit - Radar
Display unit - Flight control system
POD - Braking system
FADEC/Engine control
UAV

Ground Vehicle

C4ISR

Countermeasure
Threat detection system
Rugged computer
Digital radio
Ground radio - Communication systems

Missile

Missile launcher
POD
Missile

Space

Space vehicules
Satellites
Launchers


SOCAPEX HDAS E 077 YD - 000
20 34
SOCAPEX HDAS F 077 YC - 000
20 34

GENERAL CHARACTERISTICS - HDAS

High performance and versatile connector

Description

Amphenol Socapex HDAS is a versatile monolitic connector with 11 to 253 contacts. Designed to reach MIL-DTL-55302 performances, HDAS is the right connector when reliability is crucial. Up to 20A with an hybrid version to mix signal, power or RF, HDAS connectors are available with a wide range of fittings, contacts & options. Its proven robustness makes it already used in the most critical applications.

Benefits

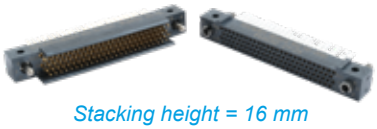
- Dedicated to harsh environment
- Electrical security: 1.2mm
- High density: 1.905mm staggered grid
- 16mm distance between boards

Features

- 12 arrangements, from 11 to 253 contacts
- Hybrid version to mix signal, power & coax
- PC Tail, SMT, Press-fit and Crimp contacts
- Meet & Exceed MIL-DTL-55302

Configurations

Board to wire
(Crimp AWG 22 to 28)



Stacking height = 16 mm

Mezzanine

Mother board to
Daughter board

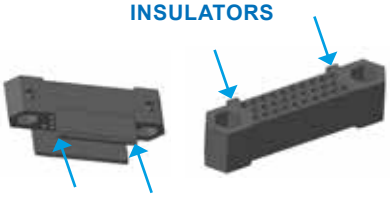
Exploded views and Materials

CONTACTS

Male pins: copper alloy, 1µm gold

Female pins (inner body): berrylium copper, 1.27µm gold

INSULATORS



30% glass-filled termoplastic (LCP)
UL94V-0
Polarized

FITTINGS

Male Guiding | Captive screw | Female Guiding Jackscrew/Captive screw

Nickel Over Brass
Or
Passivated Stainless Steel

Online configurator & 3D model download

Scan me

GENERAL CHARACTERISTICS - HDAS

Technical Specifications

MECHANICAL CHARACTERISTICS	HDAS	MIL-DTL-55302 REQUIREMENTS
Backoff [1] - Electrical security (mm)	1.2	N/A
Signal contact engagement & separation forces Engagement force per contact (N) Separation force per contact (N)	0.6 < F < 0.8 0.3 < F < 0.5	§4.5.3
Connector mating and unmating forces Mating force (N) Unmating force (N)	3_{MAX} x number of contacts 0.45_{MIN} x number of contacts	§4.5.4
Number of mating and unmating cycles	500	§4.5.9
Sinusoidal vibrations	up to 15 g	§4.5.10
Shocks (sawtooth/6ms)	up to 100 g	§4.5.10
ENVIRONMENTAL CHARACTERISTICS		
Operating Temperature (°C)	-65/+150	§4.5.13
Salt spray (hours)	144	§4.5.11
Humidity (25-65°C / 90-95%)	10 cycles of 24 hours	§4.5.15
Thermal vacuum outgassing Applicable to LCP housing, fitting raw material	TML<1.00% CVCM<0.10% *See technical note:* PCB-ER-022-Ext	N/A
ELECTRICAL CHARACTERISTICS		
Current rating per contact (A)	4.5	§4.5.5
Insulation resistance (at 500Vdc) (GΩ)	5_{MIN}	§4.5.8
Contact resistance (mΩ)	10_{MAX}	§4.5.12
Dielectric withstanding voltage (Vrms) at sea level	750_{VRMS}	§4.5.7.1
Ethernet protocols	1GBASE-KX, 10GBASE-KX4, XAUI and 10GBASE-KR/40GBASE-KX4 depending on the arrangement *See technical note:* PCB-ER-025-Ext	

[1]: When both connectors are fully mated, the backoff is the maximum distance the connectors can be unmated while functioning properly

Connector marking

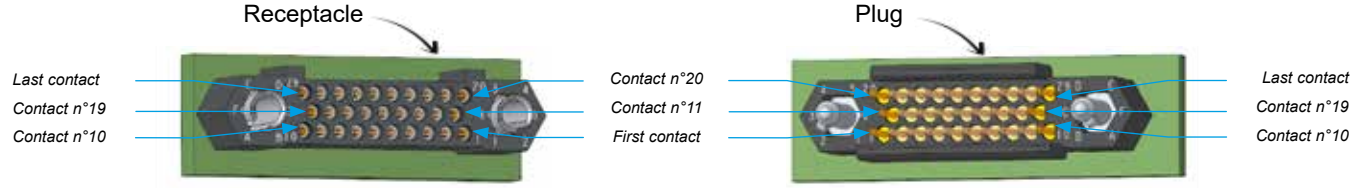
HDAS connectors are laser marked.
Exemple of marking :

Manufacturer	Commercial designation	Batch number	N° Year - Week
SOCAPEX	HDAS X XXX XXX XX-XXX XX	XXXXXXX	YY-WW

Manufacturer: Socapex or SX for space limit
Commercial designation: as specified in our **HOW TO ORDER**

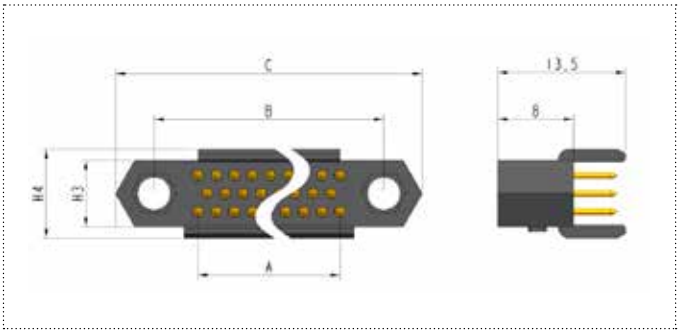
Contact location

Example with a 29-contacts connector

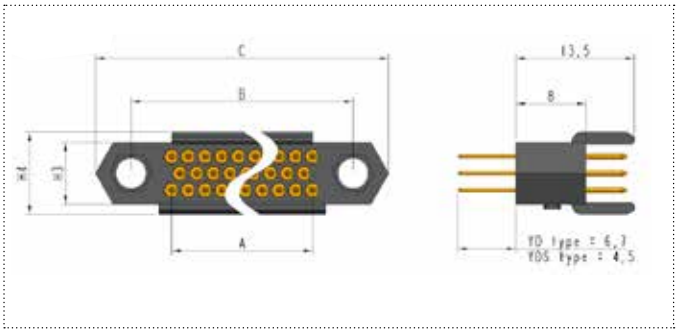


OVERALL DIMENSIONS - SIGNAL HDAS

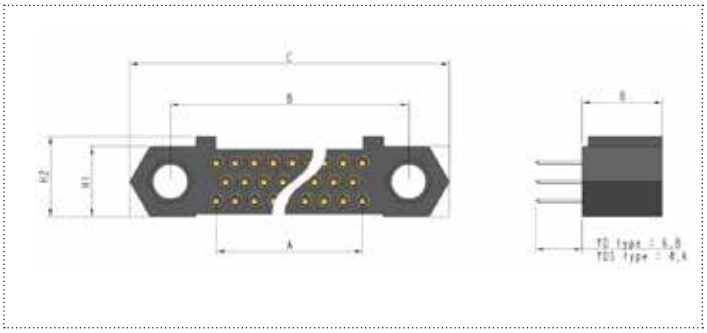
Male for cable (CA/CB)



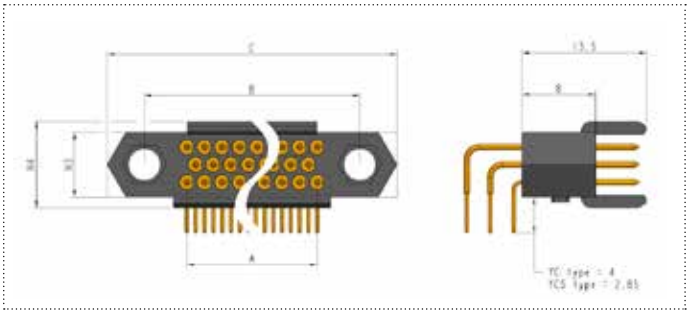
Male Straight Thru Hole (YD/YDS)



Female Straight Thru Hole (YD/YDS)



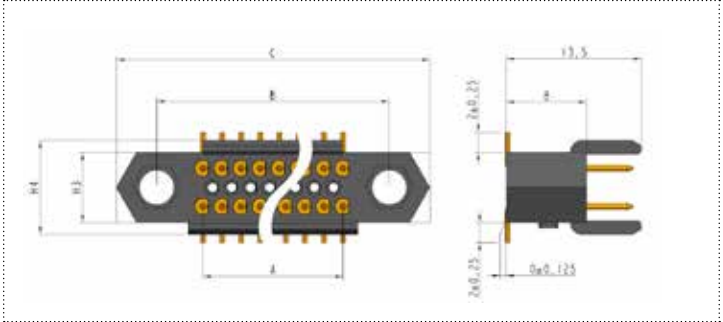
Male 90° Thru Hole (YC/YCS)



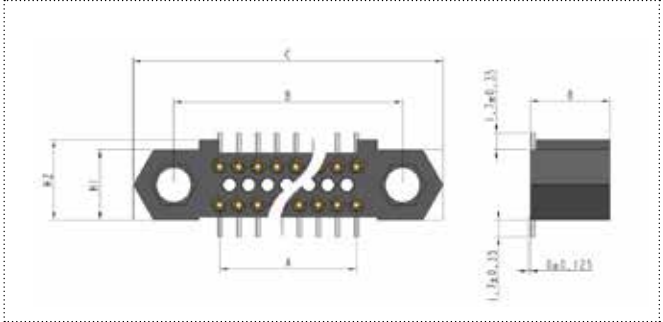
Connectors size	11	20	29	41	50	77	102	119	152	202	253
Number of rows	3	3	3	3	3	3	4	3	3	4	5
A = Distance between pins (mm)	5.715	11.43	17.145	24.765	30.48	47.625	47.625	74.295	95.25	95.25	95.25
B = Distance between fittings (mm)	14.945	20.86	26.375	33.995	41.91	59.055	59.18	85.725	106.68	106.68	106.68
C = Distance between ends (mm)	23.11 max	28.95 max	34.5 max	42.1 max	50 max	68.38 max	68.5 max	95.05 max	116.5 max	116.5 max	116.5 max
H1 = Fitting width (mm)	7.01 max						8.91 max	7.01 max		8.91 max	10.82 max
H2 = Connector width (mm)	8.11 max						10.11 max	8.11 max		10.11 max	12.02 max
H3 = Connector width (mm)	7.01 max						8.91 max	7.01 max		8.91 max	10.82 max
H4 = Connector skirt width (mm)	9.36 max						11.21 max	9.36 max		11.21 max	13.17 max

OVERALL DIMENSIONS - SIGNAL HDAS

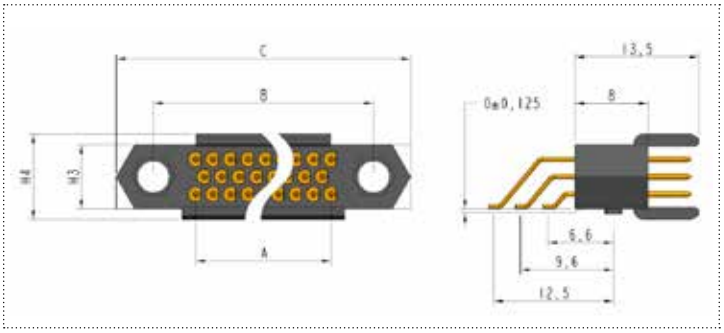
Male Straight SMT (L)



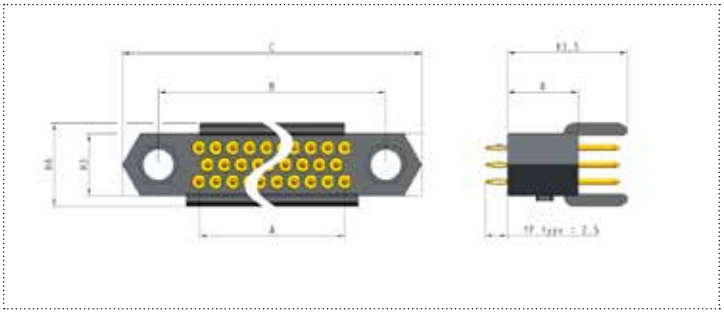
Female Straight SMT (L)



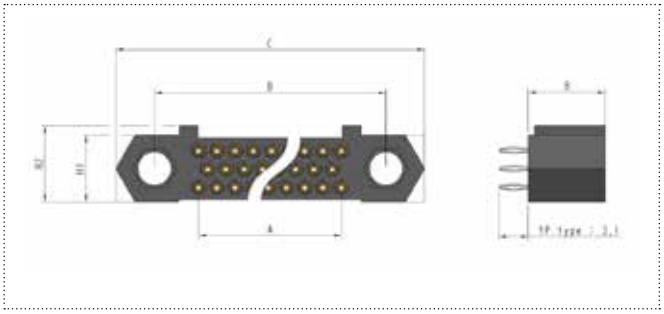
Male 90° SMT (T)



Male Straight Thru Hole Press-fit (YP)



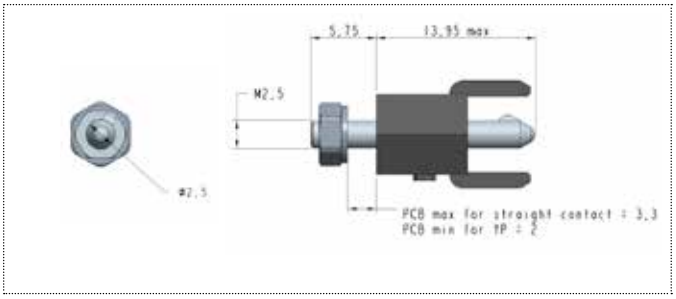
Female Straight Thru Hole Press-fit (YP)



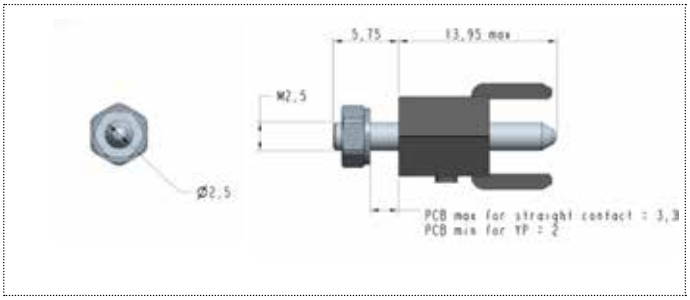
Connectors size	11	20	29	41	50	77	102	119	152	202	253
Number of rows	3	3	3	3	3	3	4	3	3	4	5
A = Distance between pins (mm)	5.715	11.43	17.145	24.765	30.48	47.625	47.625	74.295	95.25	95.25	95.25
B = Distance between fittings (mm)	14.945	20.86	26.375	33.995	41.91	59.055	59.18	85.725	106.68	106.68	106.68
C = Distance between ends (mm)	23.11 max	28.95 max	34.5 max	42.1 max	50 max	68.38 max	68.5 max	95.05 max	116.5 max	116.5 max	116.5 max
H1 = Fitting width (mm)	7.01 max						8.91 max	7.01 max		8.91 max	10.82 max
H2 = Connector width (mm)	8.11 max						10.11 max	8.11 max		10.11 max	12.02 max
H3 = Connector width (mm)	7.01 max						8.91 max	7.01 max		8.91 max	10.82 max
H4 = Connector skirt width (mm)	9.36 max						11.21 max	9.36 max		11.21 max	13.17 max

FITTINGS - SIGNAL HDAS

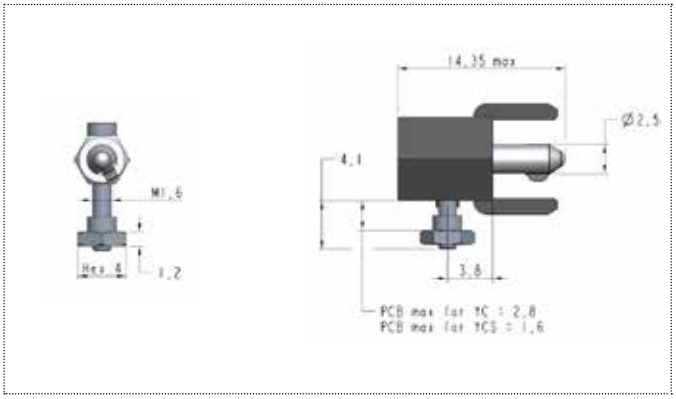
0 for plug (Straight guiding and keying for straight contact only)



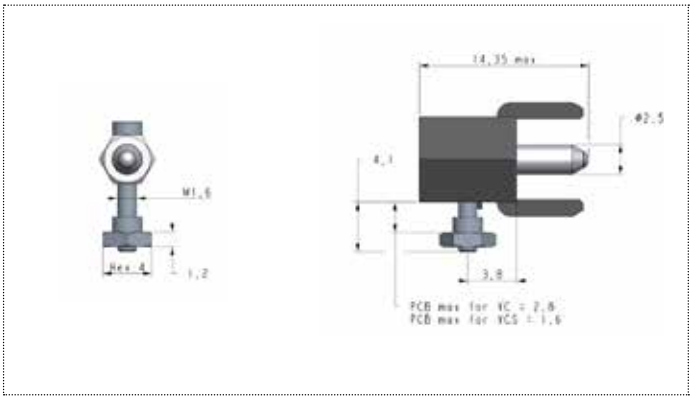
2 for plug (Straight guiding for straight contact only)



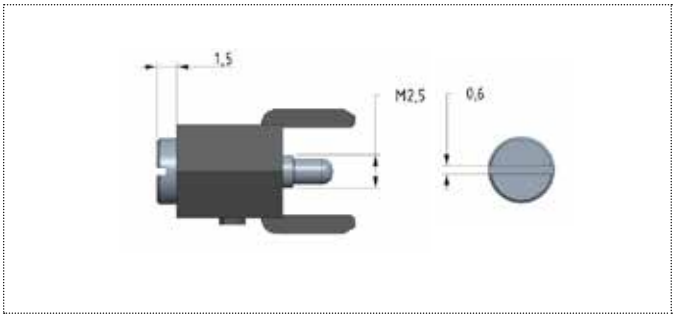
0 for plug (Straight guiding and keying for right-angle contact only)



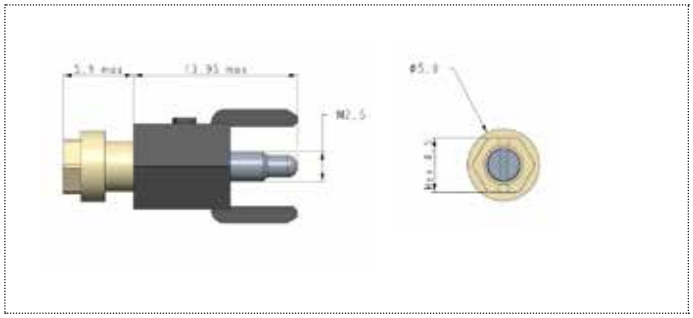
2 for plug (Straight guiding for right-angle contact only)



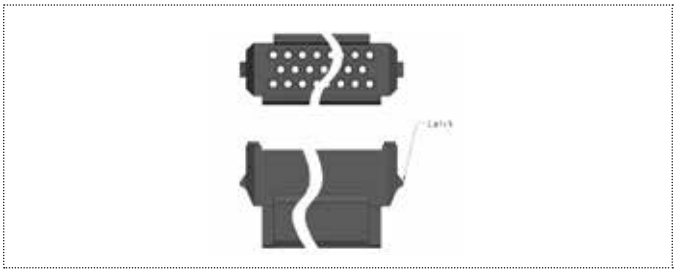
C for crimped plug (Captive screw)



5 for crimped plug (Straight jackscrew)



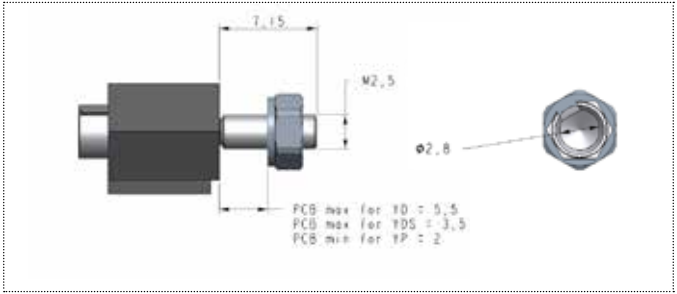
L for plug (Latch)



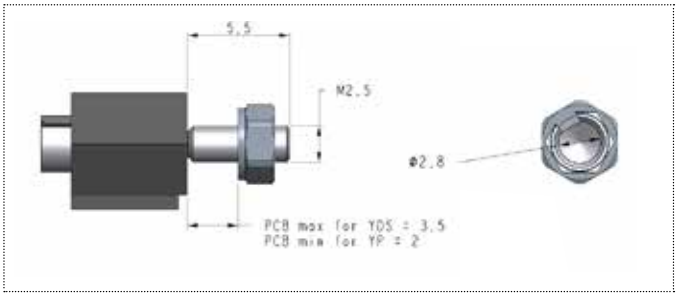
Fittings compatibility : see page 13

FITTINGS - SIGNAL HDAS

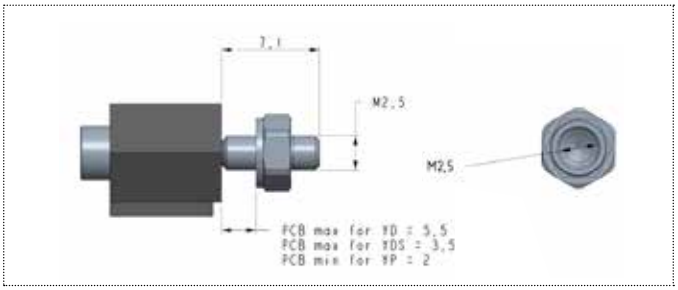
0 for receptacle (Straight codable fitting)



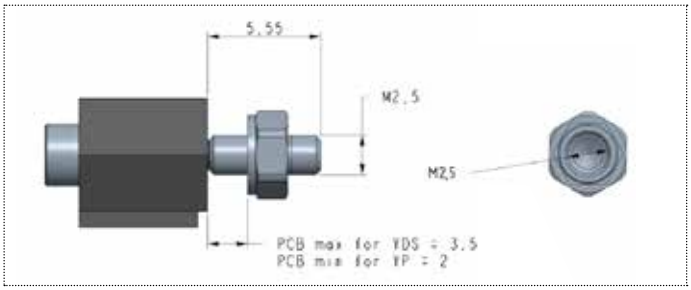
4 for receptacle (Short codable fitting for YDS and YP contact)



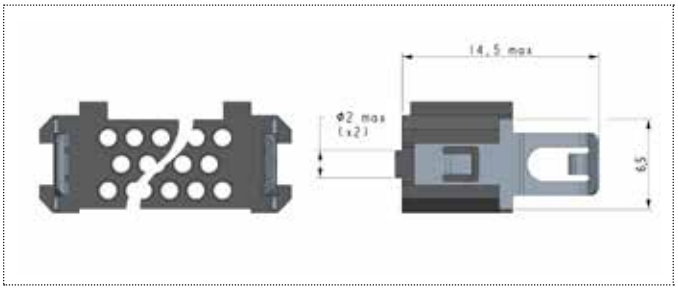
5 for receptacle (Straight jackscrew)



6 for receptacle (Straight jackscrew, short length)



L for receptacle (Latch)



Fittings compatibility

Signal Contact	Fitting for plug Fitting type	Torque (N.m)	Fitting for receptacle Fitting type
YDS - YD - YP - L	0	0,25	0 or 4
	2	0,25	0 or 4
	L	/	L
YCS - YC - T	0	0,25	0 or 4
	2	0,25	0 or 4
	L	/	L
CA - CB	0	0,25	0 or 4
	2	0,25	0 or 4
	5	On couple part between connectors: 0,25 On plastic head: 0,16 *To assemble screw M1.6, chemical thread lock is recommended*	5 or 6
	C	On couple part between connectors: 0,25	5 or 6
	L	/	L

For spare part order :

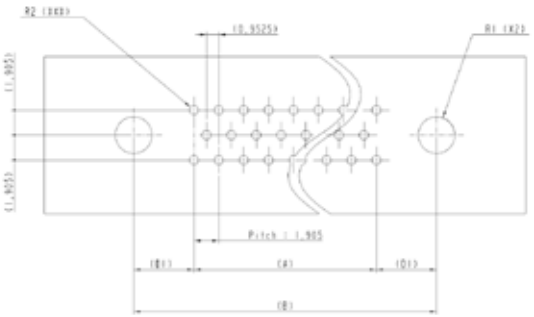
FITTING-HDASFAX00

1 for stainless steel fitting or **0** for nickel for over brass fitting(see page 34 for more information)

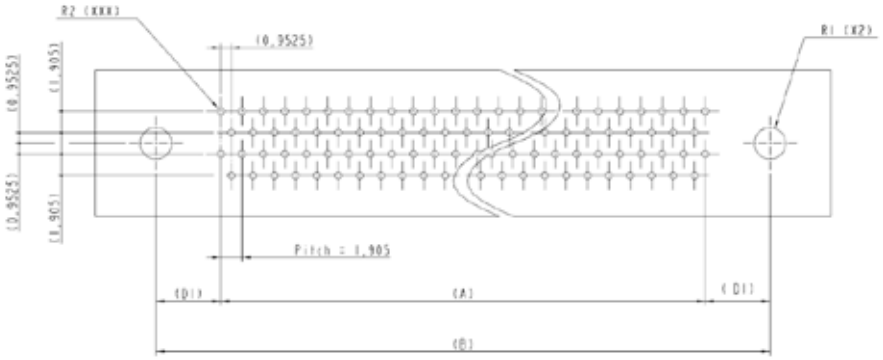
PCB LAYOUT - SIGNAL HDAS

Straight on PCB (for YD/YDS/YP contacts)

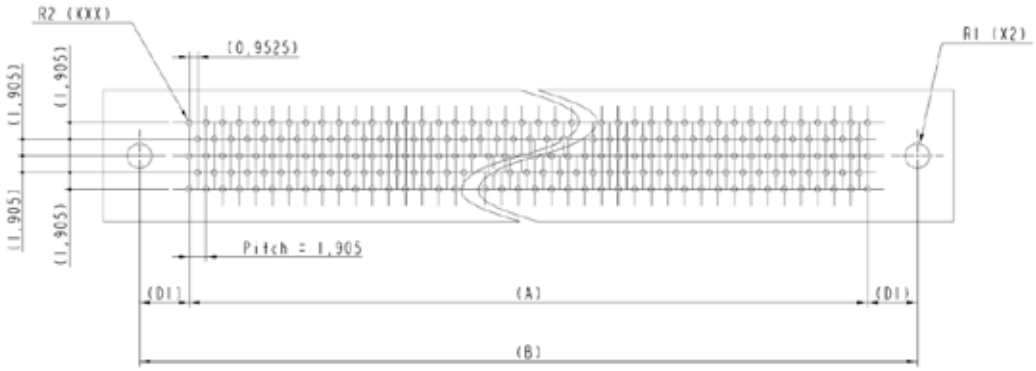
Throught-Hole PCB layout - 3 rows



Throught-Hole PCB layout - 4 rows



Throught-Hole PCB layout - 5 rows

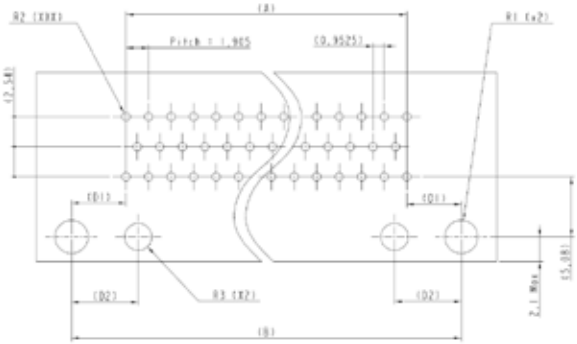


Connector sizes		11	20	29	41	50	77	102	119	152	202	253
Number of rows		3	3	3	3	3	3	4	3	3	4	5
A = Distance between pins (mm)		5.715	11.43	17.145	24.765	30.48	47.625	47.625	74.295	95.25	95.25	95.25
B = Distance between fittings (mm)		B = A + 2 x D1				41.91	59.055	59.18	85.725	106.68	106.68	106.68
all fittings but Latch	D1 (mm)	4.615	4.715	4.615	4.615	5.715	5.715	5.7775	5.715	5.715	5.715	5.715
	R1 (mm)	Ø2.8 ±0.1										
for Latch fittings	D1 (mm)	2.65	2.65	2.65	2.65	/						
	R1 (mm)	Ø2.1 ±0.5				/						
R2 for YD/YDS contacts (mm)		Ø0.65 min (hole diameter *after metalization* for receptacle) Ø0.70 min (hole diameter *after metalization* for plug)										
R2 for YP contacts (mm)		Ø0.60 ±0.05 (hole diameter *after metalization*)										

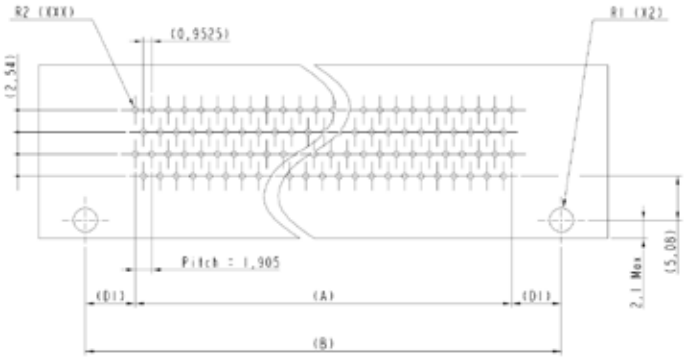
PCB LAYOUT - SIGNAL HDAS

90° on PCB (for YC/YCS contacts)

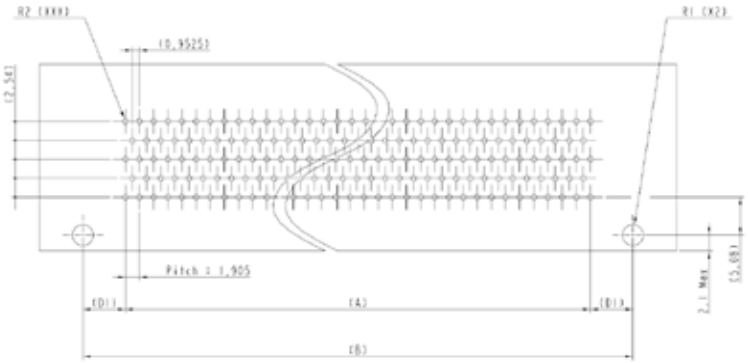
Throught-Hole PCB layout - 3 rows



Throught-Hole PCB layout - 4 rows



Throught-Hole PCB layout - 5 rows

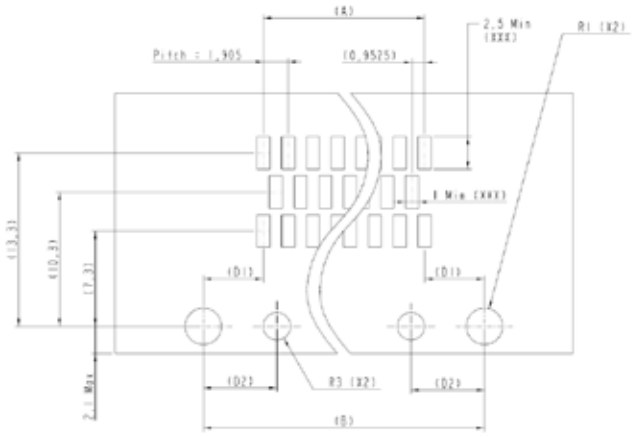


Connector sizes		11	20	29	41	50	77	102	119	152	202	253
Number of rows		3	3	3	3	3	3	4	3	3	4	5
A = Distance between pins (mm)		5.715	11.43	17.145	24.765	30.48	47.625	47.625	74.295	95.25	95.25	95.25
B = Distance between fittings (mm)		B = A + 2 x D1				41.91	59.055	59.18	85.725	106.68	106.68	106.68
all fittings but Latch	D1 (mm)	4.615	4.715	4.615	4.615	5.715	5.715	5.7775	5.715	5.715	5.715	5.715
	D2 (mm)	4	4	5.65	5.65	5.715	5.715	5.7775	5.715	5.715	5.715	5.715
	R1 (mm)	Ø2.8 ±0.1										
for Latch fittings	D1 (mm)	2.65	2.65	2.65	2.65	/						
	D2 (mm)	3	3	3.685	3.685	/						
	R1 (mm)	None										
R2 (mm)		Ø0.70 min (hole diameter *after metalization*)										
R3 (mm)		Ø2.3 ±0.5										

PCB LAYOUT - SIGNAL HDAS

90° on PCB (for T contacts)

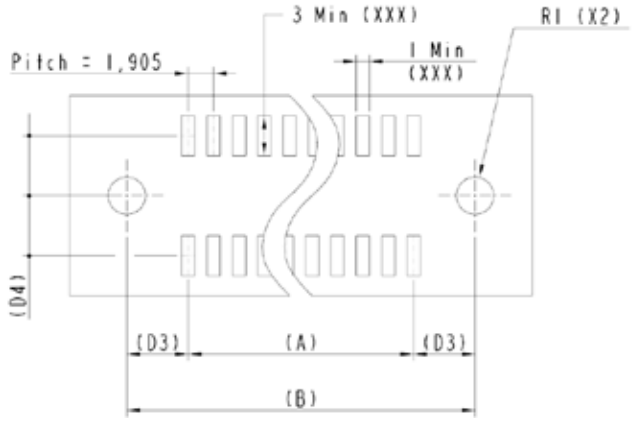
SMT PCB layout - 3 rows



Connector sizes		11	20	29	41
Number of rows		3	3	3	3
A = Distance between pins (mm)		5.715	11.43	17.145	24.765
B = Distance between fittings (mm)		B = A + 2 x D2			
R3 (mm)		Ø2.1 ±0.05			
all fittings but Latch	D1 (mm)	4.615	4.715	4.615	4.615
	D2 (mm)	4	4	5.65	5.65
	R1 (mm)	Ø2.8 ±0.1			
for Latch fittings	D1 (mm)	2.65	2.65	2.65	2.65
	D2 (mm)	3	3	3.685	3.685
	R1 (mm)	None			

Straight on PCB (for L contacts)

SMT PCB layout - 2 rows



Connector sizes		11	20	29	41
Number of rows		3	3	3	3
A = Distance between pins (mm)		5.715	11.43	17.145	24.765
B = Distance between fittings (mm)		B = A + 2 x D3			
all fittings but Latch	D3 (mm)	4.615	4.715	4.615	4.615
	R1 (mm)	Ø2.8 ±0.1			
for Latch fittings	D3 (mm)	2.65	2.65	2.65	2.65
	R1 (mm)	Ø2.1 ±0.1			
D4 (mm)		4.5 for plug 4.1 for receptacle			

HOW TO ORDER - SIGNAL HDAS

Signal version straight on PCB | Signal version 90° on PCB | Signal version for Harnesses

1.	2.	3.	4.	5.	6.	7.
Series	Connector type	Number of signal contacts	Contact termination	Deviation	Fitting type	Contact termination plating
HDAS	E	041	YD	-00	0	LF

1. Series

HDAS	HDAS

2. Connector type

F	Plug (male contacts)
E	Receptacle (female contacts)

3. Number of signal contacts

011	3 rows
020	
029	
041	
050	
077	
119	
152	
102	4 rows
202	
253	5 rows

4. Contact termination

YDS	Straight PC tail, short length
YD	Straight PC tail, standard length
YP	Press fit (Dip tinning not available: no -01 or -11, see *5. Deviation* Special plating not available: no LF or LFM, see *7. Plating*)
L	180° SMT (3 rows configurations only, middle row is unpopulated)

5. Deviation

-00	Standard brass fitting
-01	Dip tinning (SnPb or SnAg), HDAS F only (See *7. Plating*)
-10	Stainless steel fitting
-11	Stainless steel fitting + Dip tinning (SnPb or SnAg), HDAS F only

6. Fitting type

			Available deviation
Female fitting for receptacle	0	Straight codable fitting	-00 or -10
	4	Short codable fitting, YDS or YP	
	5	Straight jackscrew	-10 only
	6	Straight jackscrew, short length	
	L	Latch (011 to 041 contacts only)	
Male fitting for plug	0	Straight guiding and keying	-00 or -10 or -01 or -11
	2	Straight guiding	
	L	Latch (011 to 041 contacts only)	-10 or -11

For locking by screw fittings, please contact us at technicalsupport@amphenol-socapex.fr

7. Contact termination plating

Blank	SnPb on receptacle If there is no dip tinning -> Gold on plug (RoHS) If there is dip tinning -> SnPb on plug
LF	Bright pure Sn on receptacle (RoHS) If there is dip tinning -> SnAg on plug (RoHS)
LFM	Matte pure Sn on receptacle (RoHS)

HOW TO ORDER - SIGNAL HDAS

Signal version straight on PCB | **Signal version 90° on PCB** | Signal version for Harnesses

1.	2.	3.	4.	5.	6.	7.
Series	Connector type	Number of signal contacts	Contact termination	Deviation	Fitting type	Contact termination plating
HDAS	F	041	YC	-00	0	*Blank*

1. Series

HDAS	HDAS

2. Connector type

F	Plug (male contacts)

3. Number of signal contacts

011	3 rows
020	
029	
041	
050	
077	
119	
152	
102	4 rows
202	
253	5 rows

4. Contact termination

YCS	Right angle PC tail short
YC	Right angle PC tail standard
T	90° SMT (011 to 041 contacts only)

5. Deviation

-00	Standard brass fitting
-01	Dip tinning (SnPb or SnAg), HDAS F only (See *7. Plating*)
-10	Stainless steel fitting
-11	Stainless steel fitting + Dip tinning (SnPb or SnAg)

6. Fitting type

			Available deviation
Male fitting for plug	0	Straight guiding and keying	-00 or -10
	2	Straight guiding	or -01 or -11
	L	Latch (011 to 041 contacts only)	-10 or -11

For locking by screw fittings, please contact us at technicalsupport@amphenol-socapex.fr

7. Contact termination plating

Blank	If there is no dip tinning -> Gold on plug (RoHS) If there is dip tinning -> SnPb on plug
LF	If there is dip tinning -> SnAg on plug (RoHS)

HOW TO ORDER - SIGNAL HDAS

Signal version straight on PCB | Signal version 90° on PCB | **Signal version for Harnesses**

1. Series	2. Connector type	3. Number of signal contacts	4. Contact termination	5. Deviation	6. Fitting type	7. Contact termination plating
HDAS	F	041	CA	-00	0	*Blank*

1. Series

HDAS	HDAS

2. Connector type

F	Plug

3. Number of signal contacts

011	3 rows
020	
029	
041	
050	
077	

4. Contact termination

CA	Crimp AWG 22 & 24
CB	Crimp AWG 26 & 28

Crimped contacts are delivered unassembled, with the connector.
For spare contact order, see **HOW TO ORDER** *on page 35.*

5. Deviation

-00	Standard brass fitting
-10	Stainless steel fitting

6. Fitting type

			Available deviation
Male fitting for plug	0	Straight guiding and keying	-00 or -10
	2	Straight guiding	
	L	Latch (011 to 041 contacts only)	-10 only
	5	Straight jackscrew	
	C	Captive screw	

7. Contact termination plating

Blank	Gold (RoHS)

For harnesses, backpotting is recommended for enhanced protection.

Need wiring ?

Discover our harnesses related services on page 38.

GENERAL CHARACTERISTICS - HDAS HYBRID

Signal contact specifications

See **General characteristics** - HDAS, *page 9*

High-frequency contact specifications

Contacts M032, F032 ; and M041, F041, compliant with NFC 93569

MECHANICAL CHARACTERISTICS	HDAS HF Contact
Contact retention (N)	50 min.
Insertion and extraction force (N)	1 < F < 15 *per pair*
ENVIRONMENTAL CARACTERISTICS	
Operating Temperature (°C)	-65/+150
ELECTRICAL CARACTERISTICS	
Typical impredance (Ohm)	50
Operating frequency (GHz)	0 to 1
Peak service voltage (V)	250
ROS max at 1 000 MHZ	1.3
Voltage rating (Vrms)	180 eff. 50 Hz
Current rating (mA)	500

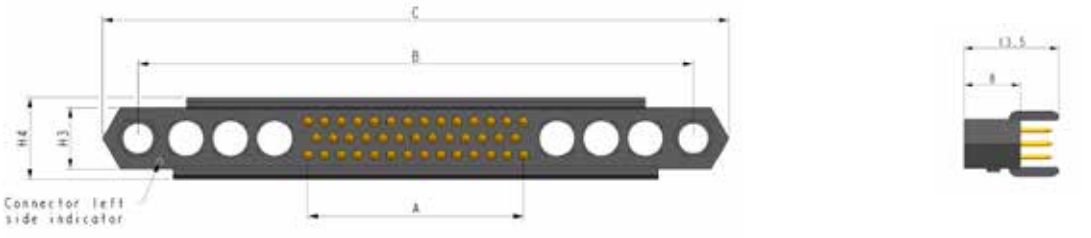
Power contact specifications

20A-contacts MH2, FH2; MH3, FH3, MH4, FH4, compliant with NFC 93569

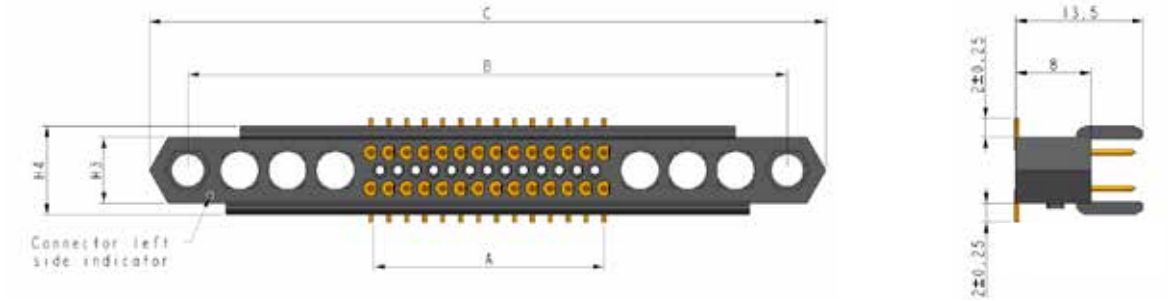
MECHANICAL CHARACTERISTICS	HDAS power contact
Contact retention (N)	50 min.
Insertion and extraction force (N)	1 < F < 15 *per pair*
ENVIRONMENTAL CARACTERISTICS	
Operating Temperature (°C)	-65/+150
ELECTRICAL CARACTERISTICS	
Current rating at 30 V DC (A)	20 (25 peak)
Contact resistance (mOhm)	12 max.

OVERALL DIMENSIONS - HDAS HYBRID

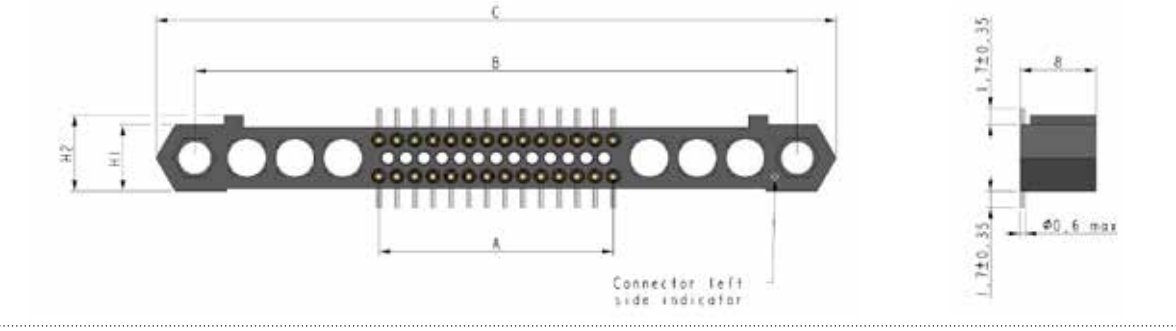
Male for cable (CA/CB)



Male Straight SMT (L)



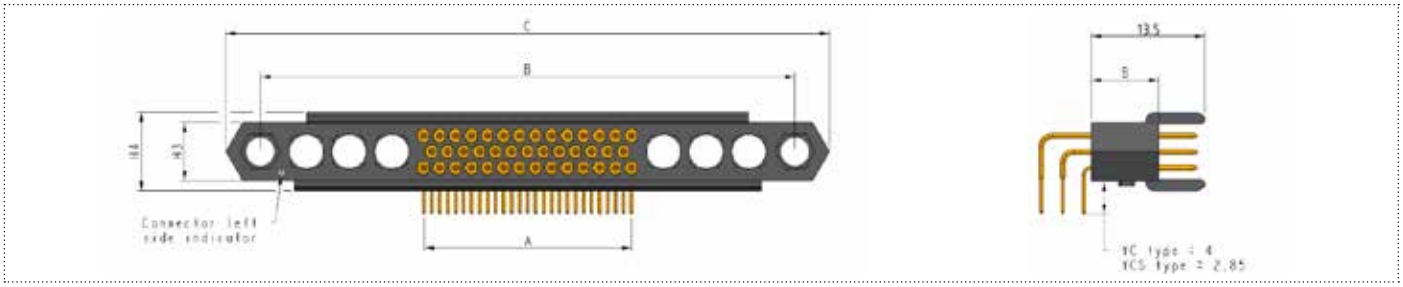
Female Straight SMT (L)



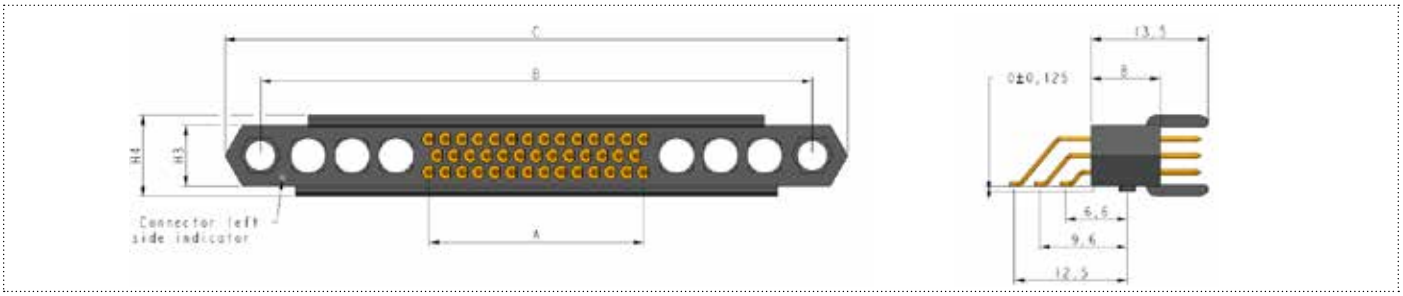
Connectors size	41+6
Number of rows	3
A = Distance between pins (mm)	24.765
B = Distance between fittings (mm)	63.705
C = Distance between ends (mm)	72 max
H1 = Fitting width (mm)	7.01 max
H2 = Connector width (mm)	8.11 max
H3 = Connector width (mm)	7.01 max

OVERALL DIMENSIONS - HDAS HYBRID

Male 90° Thru Hole (YC/YCS)



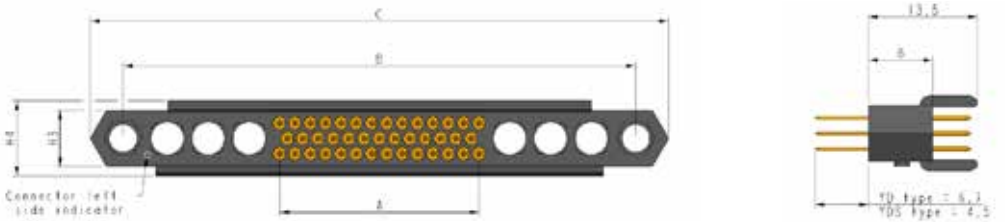
Male 90° SMT (T)



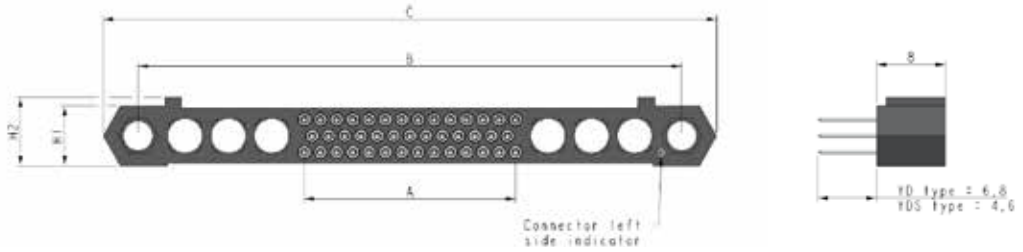
Connectors size	41+6
Number of rows	3
A = Distance between pins (mm)	27.765
B = Distance between fittings (mm)	63.705
C = Distance between ends (mm)	72 max
H1 = Fitting width (mm)	7.01 max
H2 = Connector width (mm)	8.11 max
H3 = Connector width (mm)	7.01 max
H4 = Connector skirt width (mm)	9.36 max

OVERALL DIMENSIONS - HDAS HYBRID

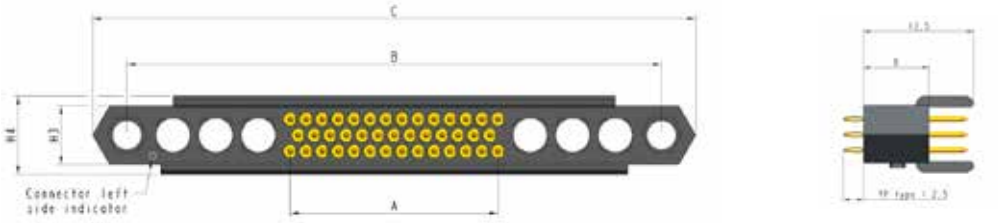
Male Straight Thru Hole (YD/YDS)



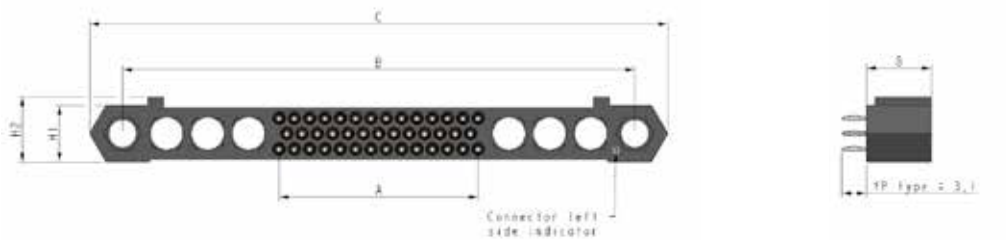
Female Straight Thru Hole (YD/YDS)



Male Straight Thru Hole Press-fit (YP)



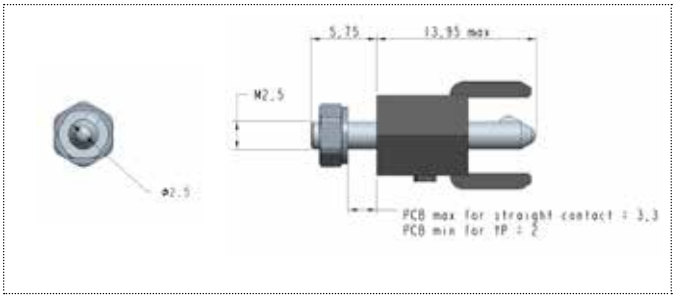
Female Straight Thru Hole Press-fit (YP)



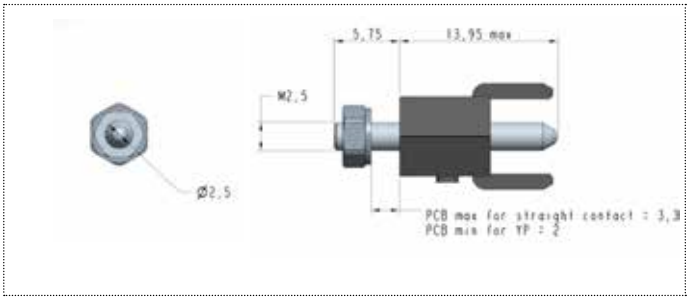
Connectors size	41+6
Number of rows	3
A = Distance between pins (mm)	27.765
B = Distance between fittings (mm)	63.705
C = Distance between ends (mm)	72 max
H1 = Fitting width (mm)	7.01 max
H2 = Connector width (mm)	8.11 max
H3 = Connector width (mm)	7.01 max
H4 = Connector skirt width (mm)	9.36 max

FITTINGS - HDAS HYBRID

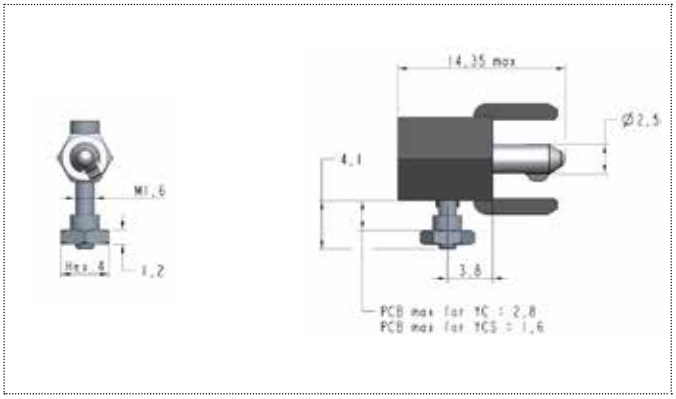
0 for plug (Straight guiding and keying for straight contact only)



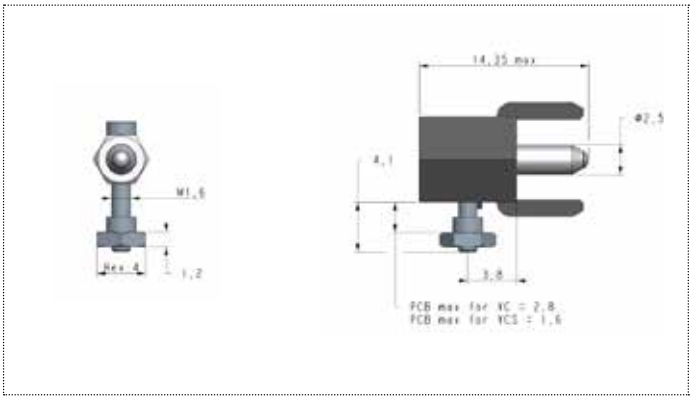
2 for plug (Straight guiding for straight contact only)



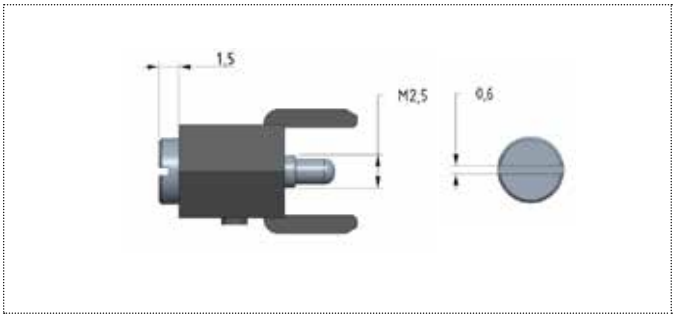
0 for plug (Straight guiding and keying for YC/YCS/T contact only)



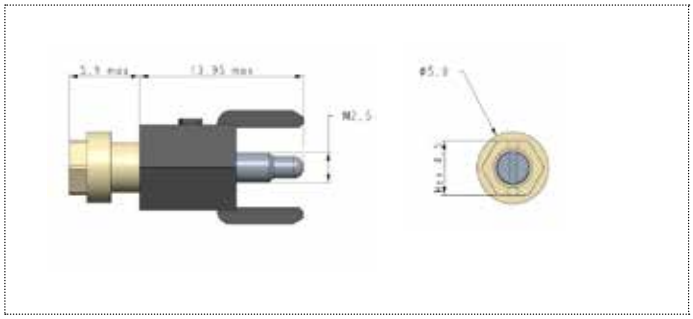
2 for plug (Straight guiding for YC/YCS/T contact only)



C for crimped plug (Captive screw)



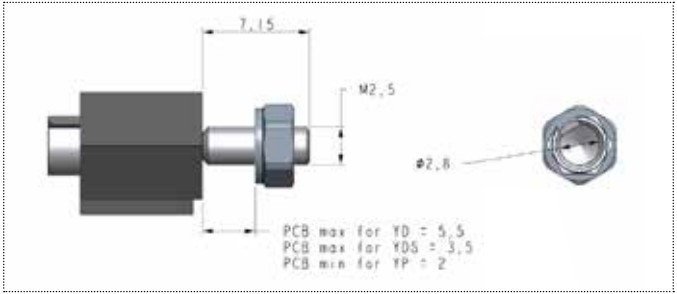
5 for crimped plug (Straight jackscrew)



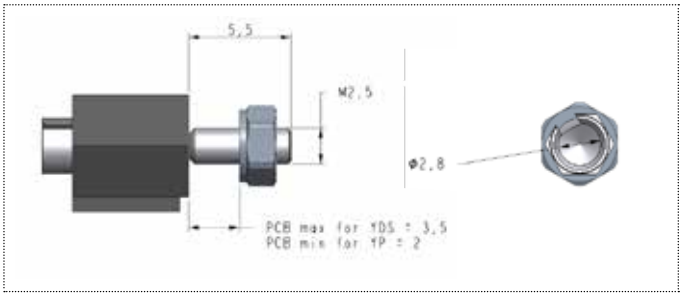
Fittings compatibility : see page 25

FITTINGS - HDAS HYBRID

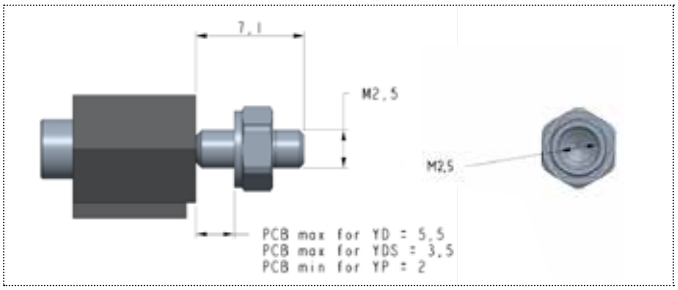
0 for receptacle (Straight codable fitting)



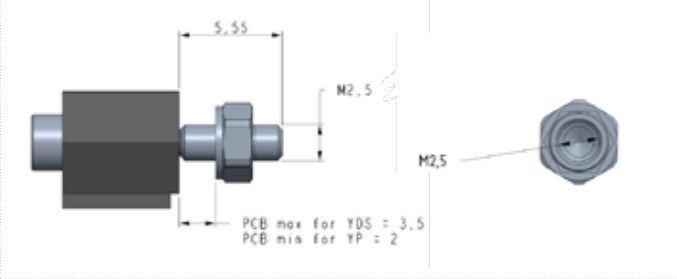
4 for receptacle (Short codable fitting for YDS and YP contact)



5 for receptacle (Straight jackscrew)



6 for receptacle (Straight jackscrew, short length)



Fittings compatibility

Signal Contact	Fitting for plug	Torque (N.m)	Fitting for receptacle
	Fitting type		Fitting type
YDS - YD - YP - L	0	0,25	0 or 4
	2	0,25	0 or 4
YCS - YC - T	0	0,25	0 or 4
	2	0,25	0 or 4
CA - CB	0	0,25	0 or 4
	2	0,25	0 or 4
	5	On couple part between connectors: 0,25 On plastic head: 0,16 *To assemble screw M1.6, chemical thread lock is recommended*	5 or 6
	C	On couple part between connectors: 0,25	5 or 6

For spare part order :

FITTING-HDASFAX00

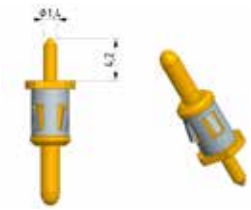
1 for stainless steel fitting or **0** for nickel for over brass fitting(see page 34 for more information)

SPECIAL CONTACTS - HDAS HYBRID

MH2

Power : Straight PC tail 20A

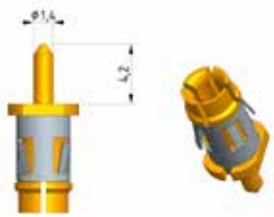
- Male contact
- Thru hole soldering



FH2

Power : Straight PC tail 20A

- Female contact
- Thru hole soldering



MH3

Power : Right angle PC tail 20A

- Male contact
- Thru hole soldering

FH3

Power : Right angle PC tail 20A

- Female contact
- Thru hole soldering

MH4

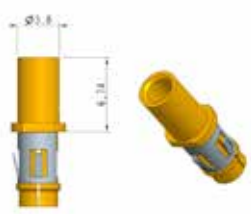
Power : Crimped contact 20A

- Male contact
- Crimping on flexible cable

FH4

Power : Crimped contact 20A

- Female contact
- Crimping on flexible cable

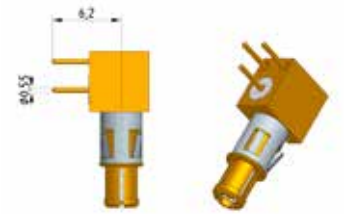


SPECIAL CONTACTS - HDAS HYBRID

M032

Coaxial : Right angle PC tail

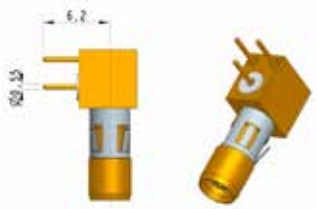
- Male contact
- Thru hole soldering



F032

Coaxial : Right angle PC tail

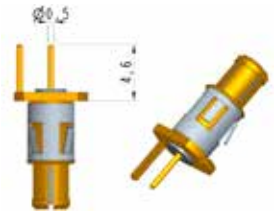
- Female contact
- Thru hole soldering



M041

Coaxial : Straight PC tail

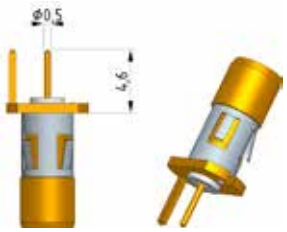
- Male contact
- Thru hole soldering



F041

Coaxial : Straight PC tail

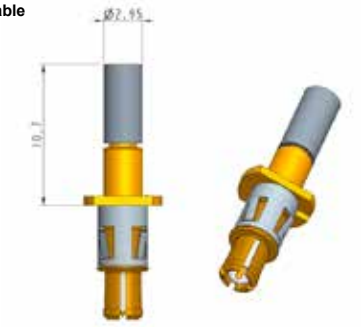
- Female contact
- Thru hole soldering



612097

Coaxial : Straight on flexible cable

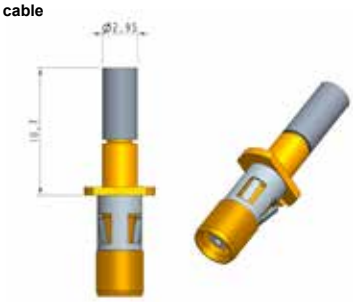
- Male contact
- Crimping on flexible cable



612103

Coaxial : Straight on flexible cable

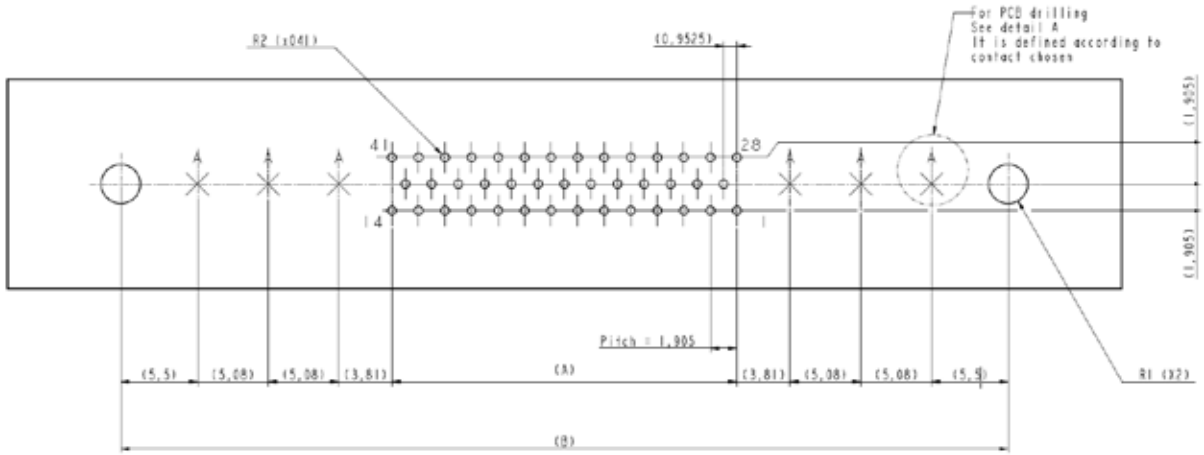
- Female contact
- Crimping on flexible cable



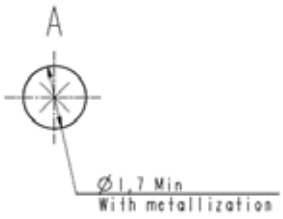
PCB LAYOUT - HDAS HYBRID

Straight on PCB (contact signal contacts YD/YDS/YP & straight special contacts)

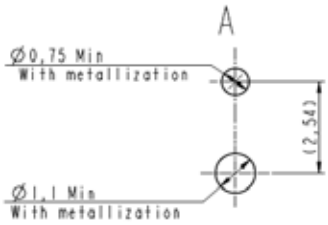
THROUGH-HOLE PCB LAYOUT - 3rows



PCB drilling for
Male or Female power contact
MH2 or FH2 (20A)



PCB drilling for
Male or Female coax contact
M041 or F041

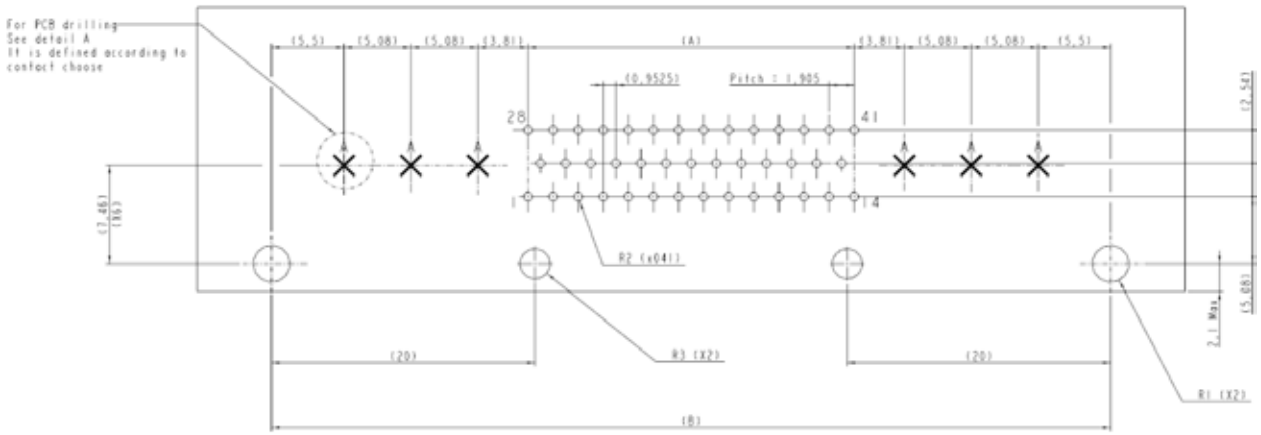


Connector sizes	41 + 6
Number of rows	3
A = Distance between pins (mm)	24.765
B = Distance between fittings (mm)	63.705
R1 (mm)	Ø 2.8 ± 0.1
R2 for YD/YDS contacts (mm)	Ø0.65 min (hole diameter *after metalization* for receptacle) Ø0.70 min (hole diameter *after metalization* for plug)
R2 for YP contacts (mm)	Ø0.60 ± 0.05 min (hole diameter *after metalization)*

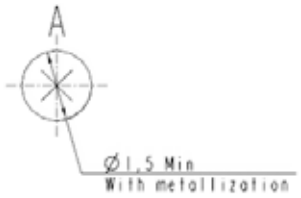
PCB LAYOUT - HDAS HYBRID

90° on PCB (contact signal contacts YC/YCS & 90° special contacts)

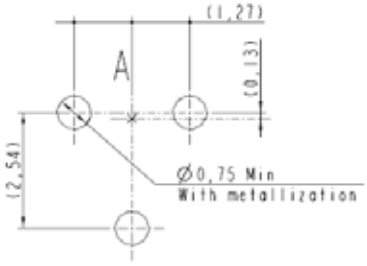
THROUGH-HOLE PCB LAYOUT - 3rows



PCB drilling for
Male or Female power contact
MH3 or FH3 (20A)



PCB drilling for
Male or Female coax contact
M032 or F032

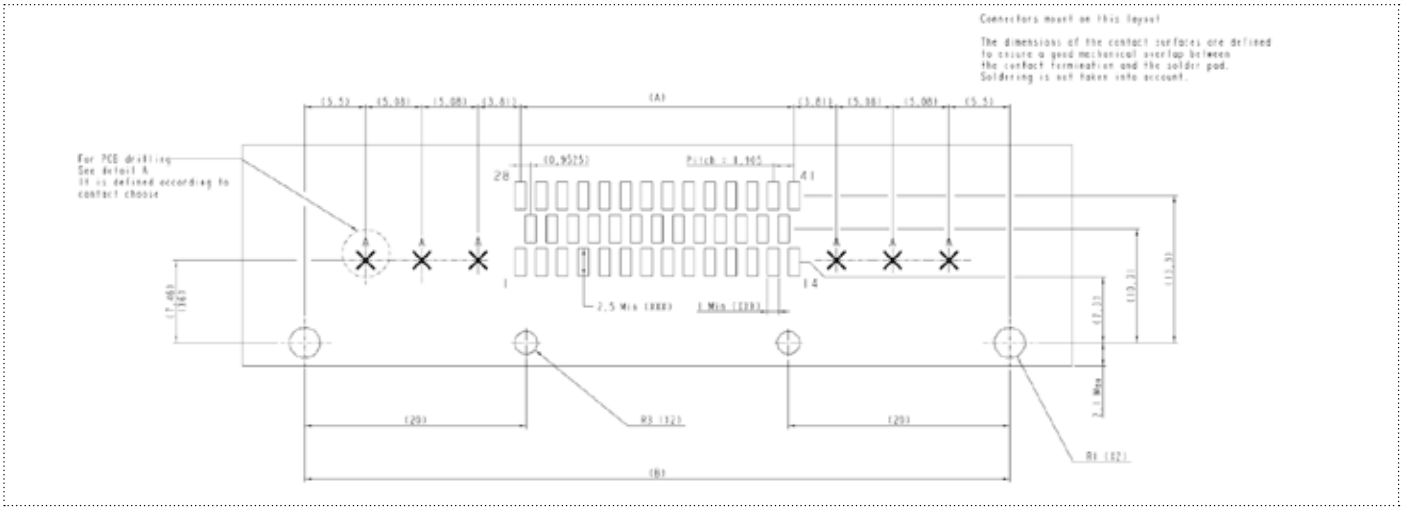


Connector sizes	41 + 6
Number of rows	3
A = Distance between pins (mm)	24.765
B = Distance between fittings (mm)	63.705
R1 (mm)	Ø2.8 ± 0.1
R2 (mm)	Ø0.70 min (hole diameter *after metalization)*
R3 (mm)	Ø2.3 ± 0.05

PCB LAYOUT - HDAS HYBRID

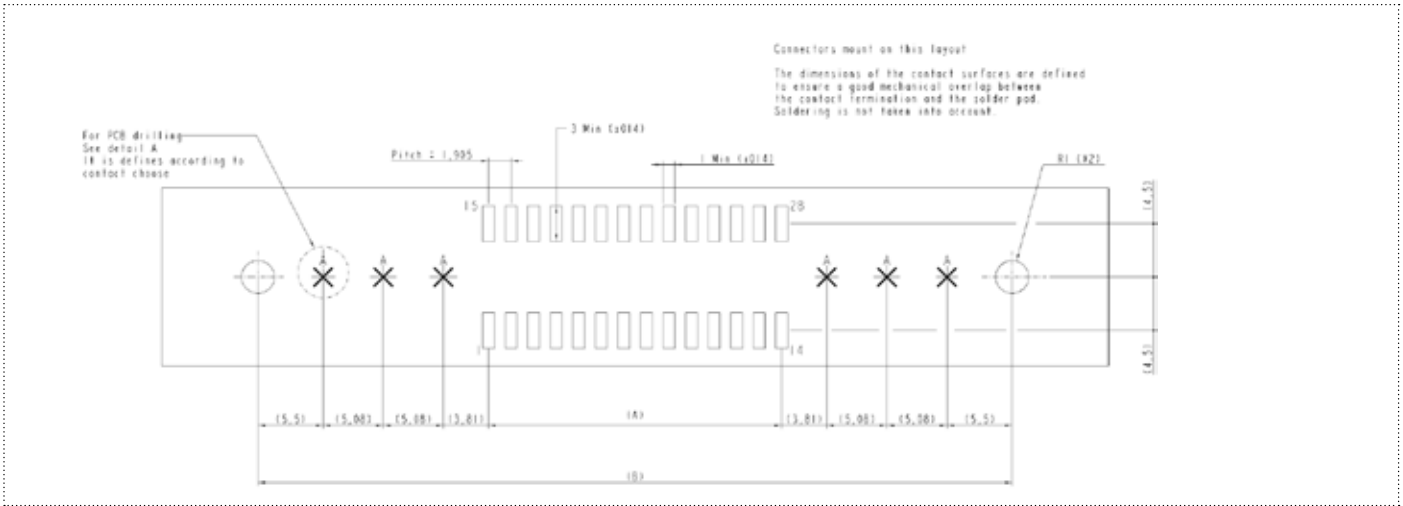
90° on PCB (contact signal contacts T & straight special contacts)

SMT PCB LAYOUT - 3rows



Straight on PCB (contact signal contacts L & straight special contacts)

SMT PCB LAYOUT - 2rows



Connector sizes	41 + 6
Number of rows	3
A = Distance between pins (mm)	24.765
B = Distance between fittings (mm)	63.705
R1 (mm)	Ø 2.8 ± 0.1
R3 (mm)	Ø2.3 ± 0.05

Special SMT contacts are not available yet. It is recommended to use special straight contacts with type L signal contacts, and special 90°-contacts with type T signal contacts. For the necessary PCB drilling dimensions, please refer to the drawings on previous pages.

HOW TO ORDER - HDAS HYBRID

Hybrid version straight on PCB | Hybrid version 90° on PCB | Hybrid version for Harnesses

1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Connector type	Number of signal contacts	Contact termination	Hybrid cavity number	Hybrid cavity type	Deviation	Fitting type	Contact termination plating
HDAS	E	041	YD	6	A	-00	0	LF

1. Series

HDAS	HDAS

2. Connector type

F	Plug
E	Receptacle

3. Number of signal contacts

041	3 rows

4. Contact termination

YDS	Straight PC tail, short length
YD	Straight PC tail, standard length
YP	Press fit
L	180° SMT (middle row is unpopulated)

5. Number of hybrid cavities

6	6 hybrid cavities

6. Hybrid cavity type

A	Hybrid cavities for 20A/coaxial contacts

7. Deviation

-00	Standard brass fitting
-01	Dip tinning (SnPb or SnAg), HDAS F only (See *9. Plating*)
-10	Stainless steel fitting
-11	Stainless steel fitting + Dip tinning (SnPb or SnAg), HDAS F only

8. Fitting type

			Available deviation
Female fitting for receptacle	0	Straight codable fitting	-00 or -10
	4	Short codable fitting, YDS or YP	
	5	Straight jackscrew	-10 only
	6	Straight jackscrew, short length	
Male fitting for plug	0	Straight guiding and keying	-00 or -10
	2	Straight guiding	

For locking by screw fittings, please contact us at technicalsupport@amphenol-socapex.fr

9. Contact termination plating

Blank	SnPb on receptacle If there is no dip tinning -> Gold on plug (RoHS) If there is dip tinning -> SnPb on plug
LF	Bright pure Sn on receptacle (RoHS) If there is dip tinning -> SnAg on plug (RoHS)
LFM	Matte pure Sn on receptacle (RoHS)

Special contacts are to be ordered separately:

For special contacts order:

Code	Gender	Type	Termination
FH2	Female	Power 20 A	Straight PC tail
FH3			Right angle PC tail
FH4			Crimped contact
F032		Coaxial 50 Ohm	Right angle PC tail
F041			Straight PC tail
612103			Crimped contact
MH2	Male	Power 20 A	Straight PC tail
MH3			Right angle PC tail
MH4			Crimped contact
M032		Coaxial 50 Ohm	Right angle PC tail
M041			Straight PC tail
612097			Crimped contact

HOW TO ORDER - HDAS HYBRID

Hybrid version straight on PCB | **Hybrid version 90° on PCB** | Hybrid version for Harnesses

1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Connector type	Number of signal contacts	Contact termination	Hybrid cavity number	Hybrid cavity type	Deviation	Fitting type	Contact termination plating
HDAS	F	041	YC	6	A	-00	0	*Blank*

1. Series

HDAS	HDAS

2. Connector type

F	Plug

3. Number of signal contacts

041	3 rows

4. Contact termination

YCS	Right angle PC tail short
YC	Right angle PC tail standard
T	90° SMT (011 to 041 contacts only)

5. Number of hybrid cavities

6	6 special cavities (applicable only with 41 signal contacts)

6. Hybrid cavity type

A	Hybrid cavities for 20A/coaxial contacts

7. Deviation

-00	Standard brass fitting
-01	Dip tinning (SnPb or SnAg), HDAS F only (See ***9. Plating***)
-10	Stainless steel fitting
-11	Stainless steel fitting + Dip tinning (SnPb or SnAg)

8. Fitting type

			Available deviation
Male fitting for plug	0	Straight guiding and keying	-00 or -10 or -01 or -11
	2	Straight guiding	

For locking by screw fittings, please contact us at technicalsupport@amphenol-socapex.fr

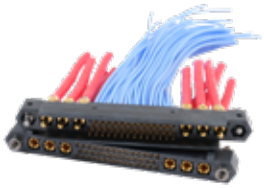
9. Contact termination plating

Blank	If there is no dip tinning -> Gold on plug (RoHS) If there is dip tinning -> SnPb on plug
LF	If there is dip tinning -> SnAg on plug (RoHS)

Special contacts are to be ordered separately:

For special contacts order:

Code	Gender	Type	Termination
FH2	Female	Power 20 A	Straight PC tail
FH3			Right angle PC tail
FH4			Crimped contact
F032		Coaxial 50 Ohm	Right angle PC tail
F041			Straight PC tail
612103			Crimped contact
MH2	Male	Power 20 A	Straight PC tail
MH3			Right angle PC tail
MH4			Crimped contact
M032		Coaxial 50 Ohm	Right angle PC tail
M041			Straight PC tail
612097			Crimped contact



HOW TO ORDER - HDAS HYBRID

Hybrid version straight on PCB | Hybrid version 90° on PCB | **Hybrid version for Harnesses**

1.	2.	3.	4.	5.	6.	7.	8.	9.
Series	Connector type	Number of signal contacts	Contact termination	Hybrid cavity number	Hybrid cavity type	Deviation	Fitting type	Contact termination plating
HDAS	F	041	CA	6	A	-00	0	*Blank*

1. Series

HDAS	HDAS

2. Connector type

F	Plug

3. Number of signal contacts

041	3 rows

4. Contact termination

CA	Crimp AWG 22 & 24
CB	Crimp AWG 26 & 28

5. Number of hybrid cavities

6	6 special cavities (applicable only with 41 signal contacts)

Crimped contacts are delivered unassembled with the connector.
For spare contact order, see **HOW TO ORDER** *on page 35.*

6. Hybrid cavity type

A	Hybrid cavities for 20A/coaxial contacts

7. Deviation

-00	Standard brass fitting
-10	Stainless steel fitting

8. Fitting type

			Available deviation
Male fitting for plug	0	Straight guiding and keying	-00 or -10
	2	Straight guiding	
	5	Straight jackscrew	-10 only
	C	Captive screw	

9. Contact termination plating

Blank	Gold (RoHS)

For harnesses, backpotting is recommended for enhanced protection.

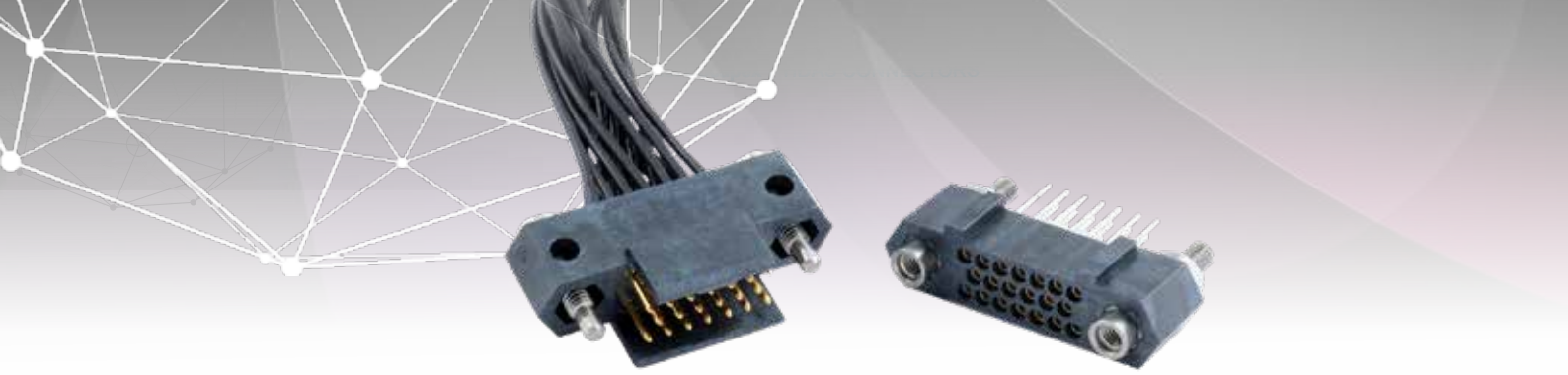
Special contacts are to be ordered separately:

For special contacts order:

Code	Gender	Type	Termination
FH2	Female	Power 20 A	Straight PC tail
FH3			Right angle PC tail
FH4			Crimped contact
F032		Coaxial 50 Ohm	Right angle PC tail
F041			Straight PC tail
612103			Crimped contact
MH2	Male	Power 20 A	Straight PC tail
MH3			Right angle PC tail
MH4			Crimped contact
M032		Coaxial 50 Ohm	Right angle PC tail
M041			Straight PC tail
612097			Crimped contact

Need wiring ?

Discover our harnesses related services on page 38.



HOW TO ORDER - SPARE PART HDAS

Spare part HDAS - Fitting | Spare part HDAS - Signal Contact | Spare part HDAS - Special contact

1.	2.	3.	4.	5.	6.
Type	Series	Connector type	Fitting orientation	Deviation	Fitting type
FITTING-	HDAS	F	A	00	0

1. Type

FITTING	Fitting

2. Series

HDAS	HDAS

3. Connector type

F	Plug
E	Receptacle

4. Fitting orientation

A	90° fitting (for YC, YCS and T contact)
S	Straight fitting (YD, YDS, YP and L contact)

5. Deviation

-00	Standard brass fitting
-10	Stainless steel fitting

6. Fitting type

			Available deviation
Female fitting for receptacle	0	Straight codable fitting	-00 or -10
	4	Short codable fitting,YDS or YP	
	5	Straight jackscrew	-10 only
	6	Straight jackscrew, short length	
	L	Latch (011 to 041 contacts only)	
Male fitting for plug	0	Straight guiding and keying	-00 or -10
	2	Straight guiding	
	C	Captive screw	-10 only
	5	Straight jackscrew	

HOW TO ORDER - SPARE PART HDAS

Spare part HDAS - Fitting | **Spare part HDAS - Signal Contact** | Spare part HDAS - Special contact

1. Type	2. Series	3. Contact gender	4. Contact termination
CONTACT-	HDAS	M	CA

1. Type

CONTACT	Contact

2. Series

HDAS	HDAS

3. Contact gender

M	Male contact

4. Contact termination

CA	Contact for cable AWG 22-24
CB	Contact for cable AWG 26-28

Spare part HDAS - Fitting | Spare part HDAS - Signal Contact | **Spare part HDAS - Special contact**

1. Code
F132

Code	Contact gender	Contact type	Termination
FH2	Female	Power 20 A	Straight PC tail
FH3			Right angle PC tail
FH4			Crimped contact
F032		Coaxial 50 Ohm	Right angle PC tail
F041			Straight PC tail
612103			Crimped contact
MH2	Male	Power 20 A	Straight PC tail
MH3			Right angle PC tail
MH4			Crimped contact
M032		Coaxiale 50 Ohm	Right angle PC tail
M041			Straight PC tail
612097			Crimped contact

TOOLING & INSTRUCTION - HDAS

Contact crimping tool

Reference	Description
M22520/2-01	Hand crimp tool for signal contacts
K2092	Positioner for HDAS signal contacts
M22520/1-01	Hand crimp tool for 20A power contacts
WA27F	Positioner for HDAS 20A power contacts

Access our crimping instruction for HDAS :
PCB-ER-017-EXT

Scan me

TECHNICAL NOTE
HDAS : CRIMPING INSTRUCTION

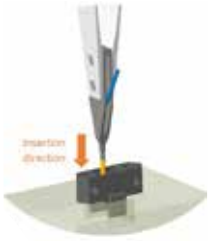
Contact insertion and extraction tool

Reference	Description
HDAS ODI C	Insertion for HDAS signal crimp contacts
HDAS ODE C	Extraction for HDAS signal crimp contacts
23550	Extraction for HDAS special contacts

Access our contact insertion/extraction instruction :
PCB-ER-018-EXT

Scan me

HDAS : CRIMP CONTACT
INSERTION/EXTRACTION INSTRUCTION



Other tooling

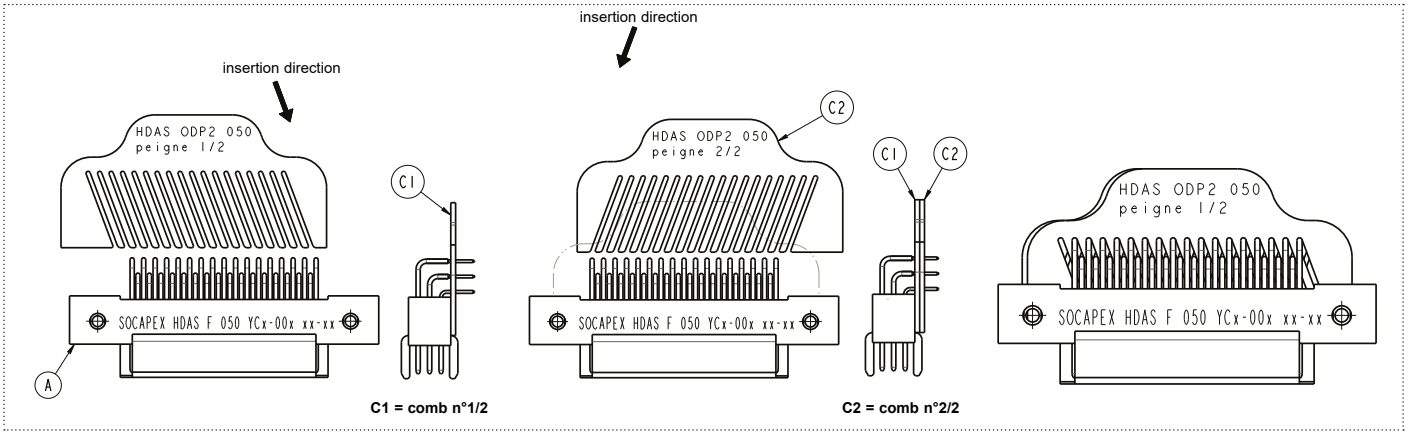
Reference	Description
HDAS ODE L	Disengagement tool for HDAS with latch fittings

TOOLING & INSTRUCTION - HDAS

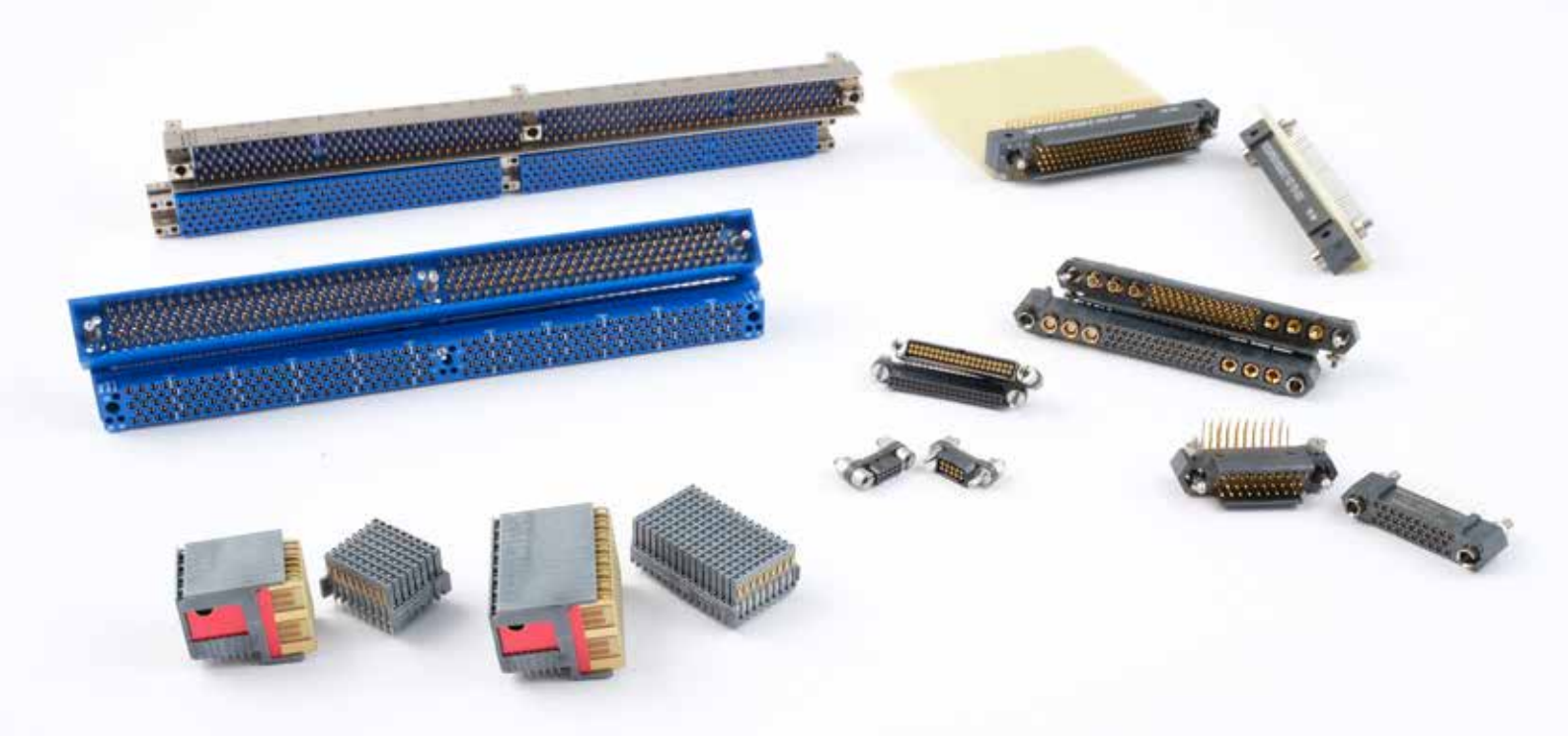
HDAS combs

Reference	HDAS ODP2 XXX*
Description	Combs to assemble connector with YC/YCS contacts on daughter board

***XXX is the size of the connector (011, 020, 029, 041, 050, 077, 102, 119, 152, 202, 253)**



C1 = comb n°1/2 **C2 = comb n°2/2**



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Custom connectors

With many years of experience in the field, our skilled design team is capable of solving the unsolvable and meeting your specific requirements for custom connectors. Equipped with the latest technologies in 3D electromagnetic simulation, modeling, as well as prototype manufacturing facilities and a state-of-the-art engineering laboratory, we provide tailored solutions for every need. Our strong relationships with our many sister companies and partners further enhance our ability to innovate and ensure the highest quality of our products, guaranteeing maximum reliability for your projects.

Connect with our team of experts to guide you towards the best solution: contact@amphenol-socapex.fr

HDAS harnesses

Need wiring ?

Discover the "harness on-the-shelf" range on our website:

Or send your specific request to our "Harness in the box" service:

NOTES

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.

Amphenol Socapex is part of Amphenol Corporation.

Discover our history

OUR MARKETS

Battlefield Communication

Ground Vehicles

Military aircraft / Structure

Commercial Aviation

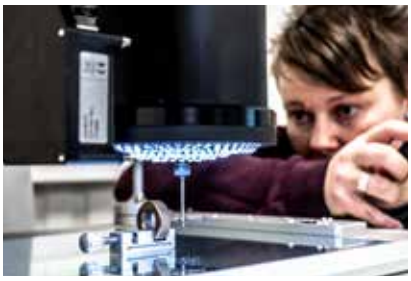
Space

Industry

TECHNOLOGIES & INNOVATION

RESEARCH & DEVELOPMENT



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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

Amphenol SOCAPEX

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