

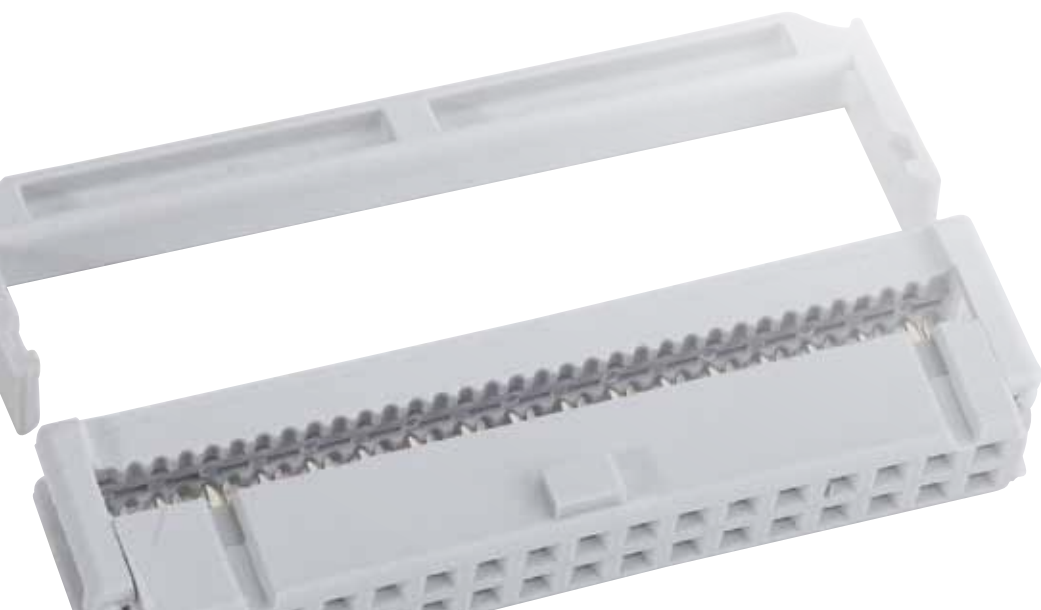
SECTION 8

FLATCABLE CONNECTORS DIN 41651

The CONEC flatcable connector system meets DIN 41651 requirement. It is a reliable and cost effective interconnect system.

The flat cables used with this connector family have 10 to 64 (AWG 28) conductors at 1.27 mm pitch.

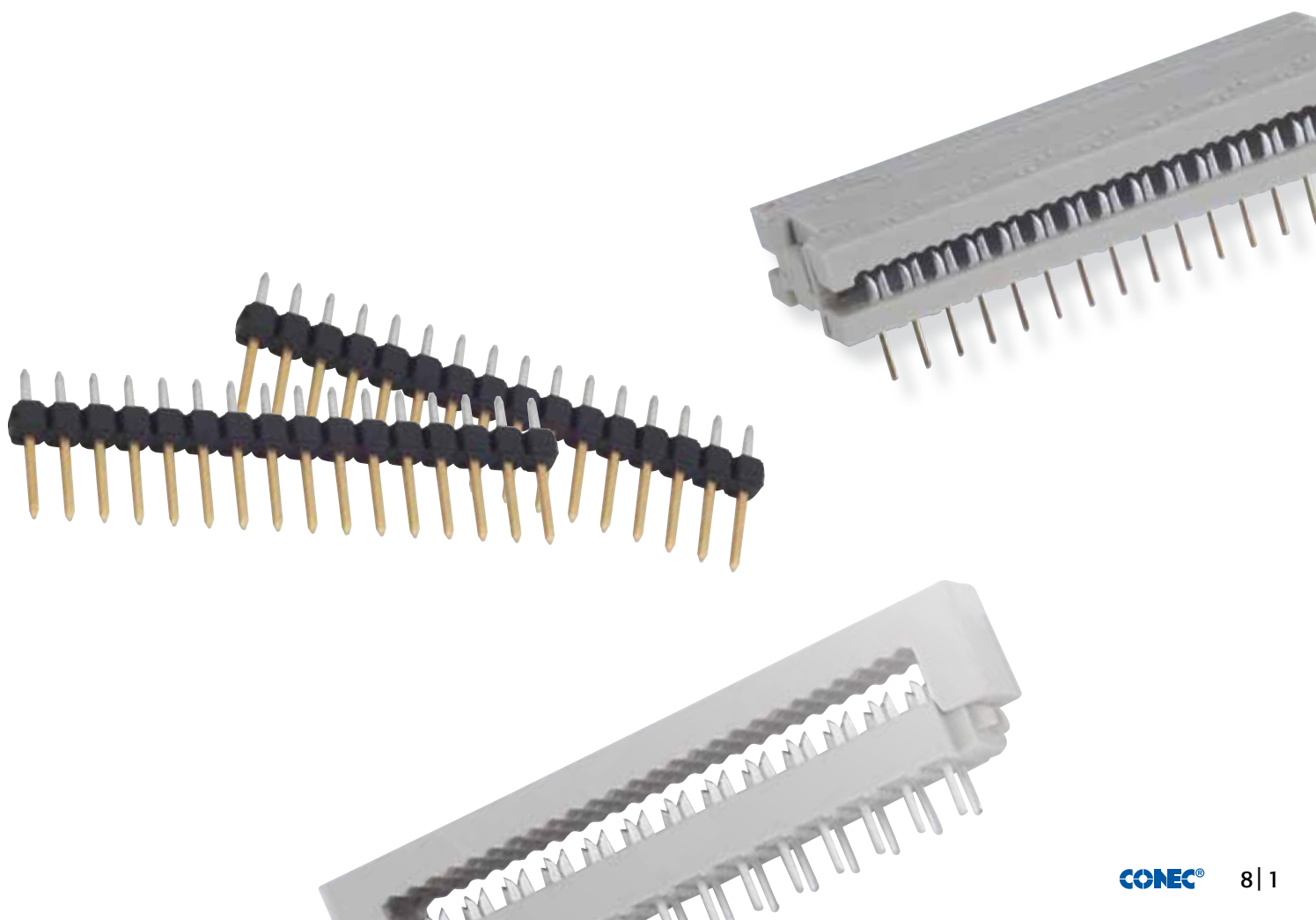
The shrouded headers provide convenient guide for the mating socket connectors. The shroud also provides polarization to prevent incorrect mating. The locking ears not only provide latching of the mated pair but also act as ejectors for unmating the mated pair.





CONEC has beside the DIN41651 Connector serie another flatcable connectors in the program. This are D-Subminiature, Type C (DIN 41612), DIP and PCB Connectors.

Plug and Socket Connectors with 2.54 mm contact spacing complete the program.



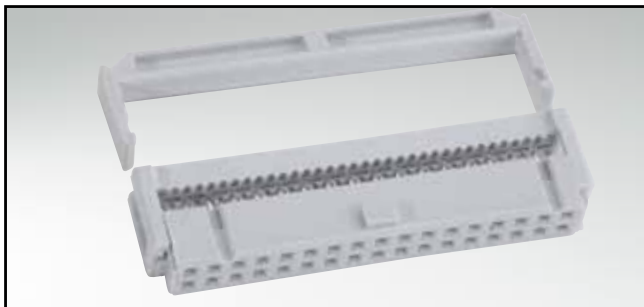
TECHNICAL DATA

Materials	DIN 41651	DIP + PCB	DIN 41612-IDC	CBL	CSU
Insulator		PBT GF		PA	PA
Flammability	UL 94 V-0				
Material contacts	Copper alloy				
Contact plating	gold over nickel	gold over nickel or tin plated	gold over nickel	gold over nickel or tin plated	gold over nickel or tin plated
Working temperature	-65° C to +150° C			-40°C to +135°C	-45°C to +115°C
Working current	1 A			5 A +70° C	
Insulation resistance		$\geq 10^{12} \Omega$		$\geq 10^{12} \Omega$	$\geq 10^{12} \Omega$
Contact resistance				$\leq 10 \text{ m}\Omega$	4 mΩ
Voltage proof	1000 V eff.	550 V eff.			
Working voltage		250 V			250 V
Quality class 3 Quality class 2 Quality class 1	50 cycles 400 cycles 500 cycles				

Technical alterations are subjects to change without notice.

FLATCABLE CONNECTORS

Socket connector – insulation displacement termination (IDC)

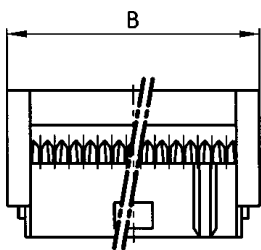
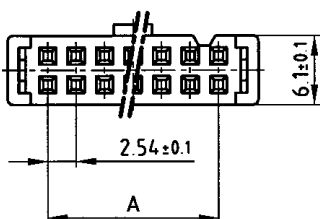


RoHS compliant

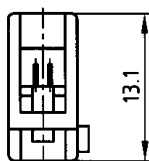
DESCRIPTION

- Contact spacing 2.54 mm
- 6 to 64 positions
- Strain relief needs to be ordered separately
- With polarization key
- Standard quality class 3
- Other quality classes on request

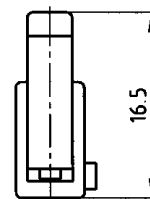
PRODUCT DRAWING



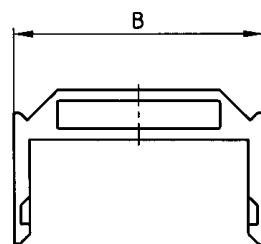
without strain relief



with strain relief (installed)



strain relief



No. of Pos.	A ± 0.1	B ± 0.2	No. of Pos.	A ± 0.1	B ± 0.2
06	2 x 2.54 = 5.08	12.30	26	12 x 2.54 = 30.48	37.60
08	3 x 2.54 = 7.62	14.80	34	16 x 2.54 = 40.64	47.80
10	4 x 2.54 = 10.16	17.30	40	19 x 2.54 = 48.26	55.40
14	6 x 2.54 = 15.24	22.40	50	24 x 2.54 = 60.96	68.10
16	7 x 2.54 = 17.78	24.90	60	29 x 2.54 = 73.66	80.80
20	9 x 2.54 = 22.86	30.00	64	31 x 2.54 = 78.74	85.85

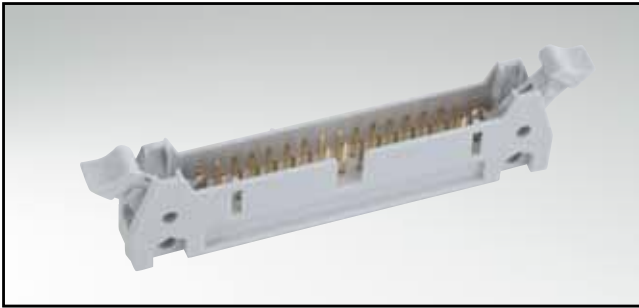
ORDER DATA

(Dim. = mm)

No. of Pos.	Socket connector	Strain relief	No. of Pos.	Socket connector	Strain relief
6	142 A 10199 X		26	142 A 10259 X	140 X 10099 X
8	142 A 10209 X		34	142 A 10269 X	140 X 10109 X
10	142 A 10219 X	140 X 10059 X	40	142 A 10279 X	140 X 10119 X
14	142 A 10229 X	140 X 10069 X	50	142 A 10289 X	140 X 10129 X
16	142 A 10239 X	140 X 10079 X	60	142 A 10299 X	140 X 10139 X
20	142 A 10249 X	140 X 10089 X	64	142 A 10419 X	140 X 10159 X

FLATCABLE CONNECTORS

Plug connector – straight

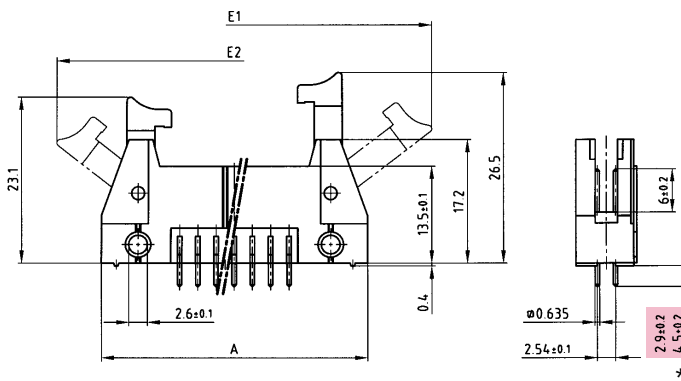


RoHS compliant

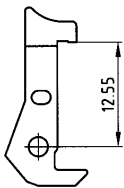
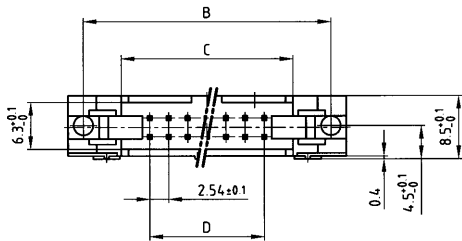
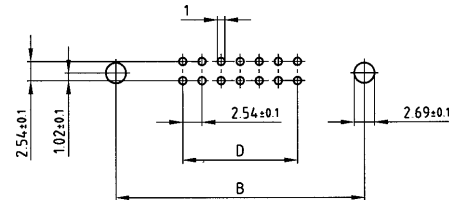
DESCRIPTION

- Solder pin
- Pin length 2.9 mm alternative 4.5 mm (*) on request
- 10 to 64 positions
- Center polarization
- Available with long, short and without latches
- Long latches for socket connector with strain relief

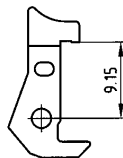
PRODUCT DRAWING



PCB-hole pattern



Long latches
Part no. 140 X 10019 X



Short latches
Part no. 140 X 10029 X

No. of Pos.	A ±0.2	B ±0.1	C ±0.2	D ±0.1	E1	E2
10	32.00	27.94	17.82	4x2.54=10.16	50.00	44.50
14	37.08	33.02	22.90	6x2.54=15.24	55.00	49.50
16	39.62	35.56	25.44	7x2.54=17.78	57.60	52.10
20	44.70	40.64	30.52	9x2.54=22.86	62.50	57.00
26	52.32	48.26	38.14	12x2.54=30.48	70.10	64.60
34	62.48	58.42	48.30	16x2.54=40.64	80.30	74.80
40	70.10	66.04	55.92	19x2.54=48.26	87.90	82.40
50	82.80	78.74	68.62	24x2.54=60.96	100.70	95.20
60	95.50	91.44	81.32	29x2.54=73.66	113.40	107.90
64	100.58	96.52	86.40	31x2.54=78.74	118.52	113.02

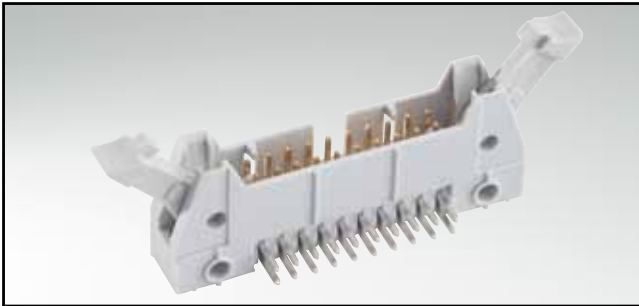
ORDER DATA

(Dim. = mm)

No. of Pos.	WITHOUT LATCHES		WITH SHORT LATCHES		WITH LONG LATCHES	
	Pin length 2.9 mm	Pin length 4.5 mm*	Pin length 2.9 mm	Pin length 4.5 mm*	Pin length 2.9 mm	Pin length 4.5 mm*
10	141 A 10019 X	141 A 10109 X	141 A 10199 X	141 A 10289 X	141 A 10379 X	141 A 10469 X
14	141 A 10029 X	141 A 10119 X	141 A 10209 X	141 A 10299 X	141 A 10389 X	141 A 10479 X
16	141 A 10039 X	141 A 10129 X	141 A 10219 X	141 A 10309 X	141 A 10399 X	141 A 10489 X
20	141 A 10049 X	141 A 10139 X	141 A 10229 X	141 A 10319 X	141 A 10409 X	141 A 10499 X
26	141 A 10059 X	141 A 10149 X	141 A 10239 X	141 A 10329 X	141 A 10419 X	141 A 10509 X
34	141 A 10069 X	141 A 10159 X	141 A 10249 X	141 A 10239 X	141 A 10429 X	141 A 10519 X
40	141 A 10079 X	141 A 10169 X	141 A 10259 X	141 A 10349 X	141 A 10439 X	141 A 10529 X
50	141 A 10089 X	141 A 10179 X	141 A 10269 X	141 A 10359 X	141 A 10449 X	141 A 10539 X
60	141 A 10099 X	141 A 10189 X	141 A 10279 X	141 A 10369 X	141 A 10459 X	141 A 10549 X
64	141 A 12289 X	141 A 12429 X	141 A 12319 X	141 A 12329 X	141 A 12339 X	141 A 12349 X

FLATCABLE CONNECTORS

Plug connector – angled

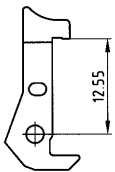
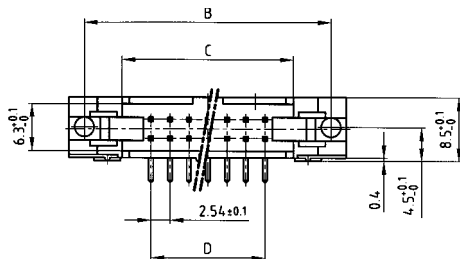
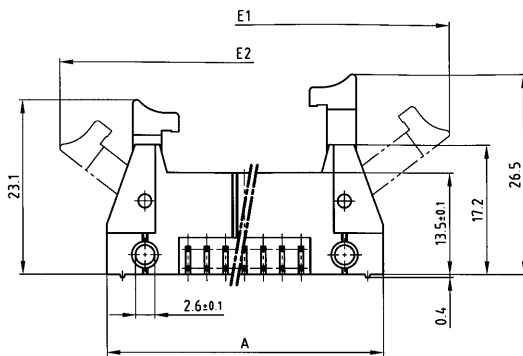


RoHS compliant

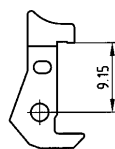
DESCRIPTION

- Solder pin
- Pin length 2.9 mm alternative 4.5 mm (*) on request
- 10 to 64 positions
- Center polarization
- Available with long, short and without latches
- Long latches for socket connector with strain relief

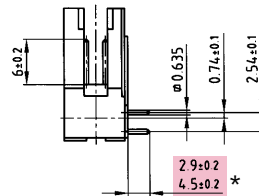
PRODUCT DRAWING



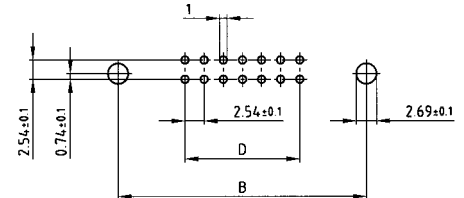
Long latches
Part no. 140 X 10019 X



Short latches
Part no. 140 X 10029 X



PCB-hole pattern



No. of Pos.	A ±0.2	B ±0.1	C ±0.2	D ±0.1	E1	E2
10	32.00	27.94	17.82	4x2.54=10.16	50.00	44.50
14	37.08	33.02	22.90	6x2.54=15.24	55.00	49.50
16	39.62	35.56	25.44	7x2.54=17.78	57.60	52.10
20	44.70	40.64	30.52	9x2.54=22.86	62.50	57.00
26	52.32	48.26	38.14	12x2.54=30.48	70.10	64.60
34	62.48	58.42	48.30	16x2.54=40.64	80.30	74.80
40	70.10	66.04	55.92	19x2.54=48.26	87.90	82.40
50	82.80	78.74	68.62	24x2.54=60.96	100.70	95.20
60	95.50	91.44	81.32	29x2.54=73.66	113.40	107.90
64	100.58	96.52	86.40	31x2.54=78.74	118.52	113.02

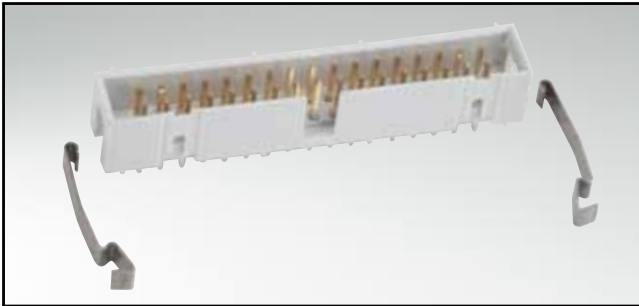
ORDER DATA

(Dim. = mm)

No. of Pos.	WITHOUT LATCHES		WITH SHORT LATCHES		WITH LONG LATCHES	
	Pin length 2.9 mm	Pin length 4.5 mm*	Pin length 2.9 mm	Pin length 4.5 mm*	Pin length 2.9 mm	Pin length 4.5 mm*
10	141 A 10559 X	141 A 10649 X	141 A 10739 X	141 A 10829 X	141 A 10919 X	141 A 11009 X
14	141 A 10569 X	141 A 10659 X	141 A 10749 X	141 A 10839 X	141 A 10929 X	141 A 11019 X
16	141 A 10579 X	141 A 10669 X	141 A 10759 X	141 A 10849 X	141 A 10939 X	141 A 11029 X
20	141 A 10589 X	141 A 10679 X	141 A 10769 X	141 A 10859 X	141 A 10949 X	141 A 11039 X
26	141 A 10599 X	141 A 10689 X	141 A 10779 X	141 A 10869 X	141 A 10959 X	141 A 11049 X
34	141 A 10609 X	141 A 10699 X	141 A 10789 X	141 A 10879 X	141 A 10969 X	141 A 11059 X
40	141 A 10619 X	141 A 10709 X	141 A 10799 X	141 A 10889 X	141 A 10979 X	141 A 11069 X
50	141 A 10629 X	141 A 10719 X	141 A 10809 X	141 A 10899 X	141 A 10989 X	141 A 11079 X
60	141 A 10639 X	141 A 10729 X	141 A 10819 X	141 A 10909 X	141 A 10999 X	141 A 11089 X
64	141 A 12279 X	141 A 12439 X	141 A 12359 X	141 A 12369 X	141 A 12379 X	141 A 12389 X

FLATCABLE CONNECTORS

Low profile header – straight

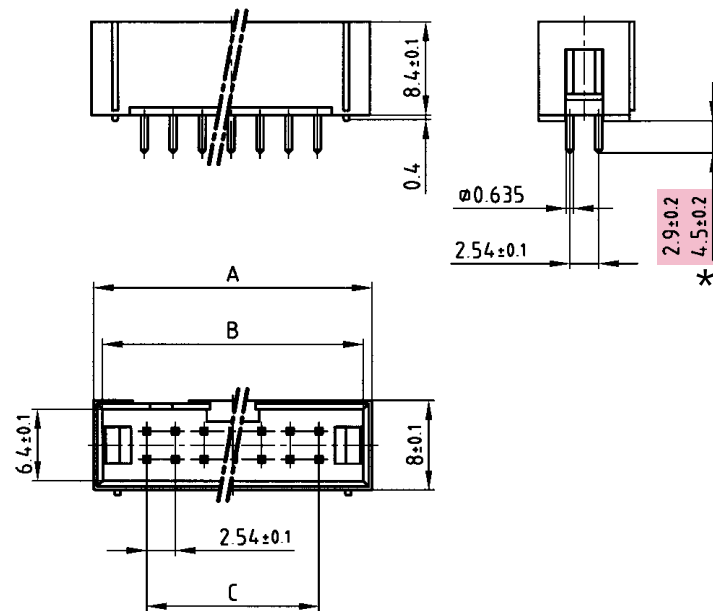


RoHS compliant

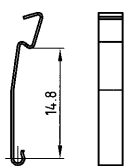
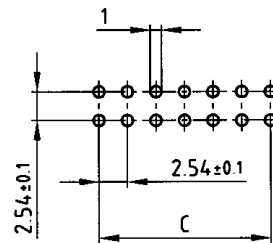
DESCRIPTION

- Solder pin
- Pin length 2.9 mm alternative 4.5 mm (*) on request
- 10 to 64 positions
- Center polarization
- Space saving version
- Clip latches need to be ordered separately

PRODUCT DRAWING



PCB-hole pattern



Clip latches
Part no. 140 X 10039 X

No. of Pos.	A ± 0.2	B ± 0.1	C ± 0.1
10	19,50	17,90	4x2.54=10.16
14	24,60	23,00	6x2.54=15.24
16	27,20	25,60	7x2.54=17.78
20	32,30	30,70	9x2.54=22.86
26	39,90	38,30	12x2.54=30.48
34	50,10	48,50	16x2.54=40.64
40	57,80	56,20	19x2.54=48.26
50	70,50	68,90	24x2.54=60.96
64	89,10	86,40	31x2.54=78.74

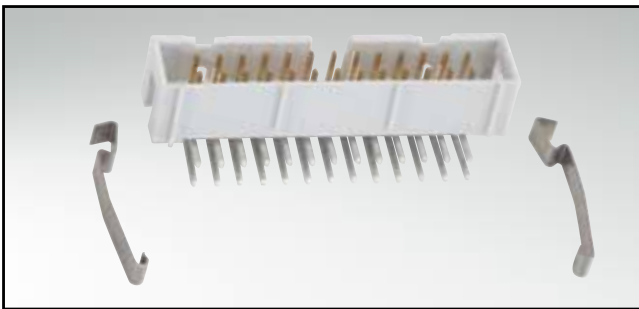
ORDER DATA

(Dim. = mm)

No. of Pos.	Pin length 2.9 mm	Pin length 4.5 mm*	No. of Pos.	Pin length 2.9 mm	Pin length 4.5 mm*
10	141 A 11639 X	141 A 11729 X	34	141 A 11689 X	141 A 11779 X
14	141 A 11649 X	141 A 11739 X	40	141 A 11699 X	141 A 11789 X
16	141 A 11659 X	141 A 11749 X	50	141 A 11709 X	141 A 11799 X
20	141 A 11669 X	141 A 11759 X	60	141 A 12269 X	141 A 12449 X
26	141 A 11679 X	141 A 11769 X			

FLATCABLE CONNECTORS

Low profile header – angled

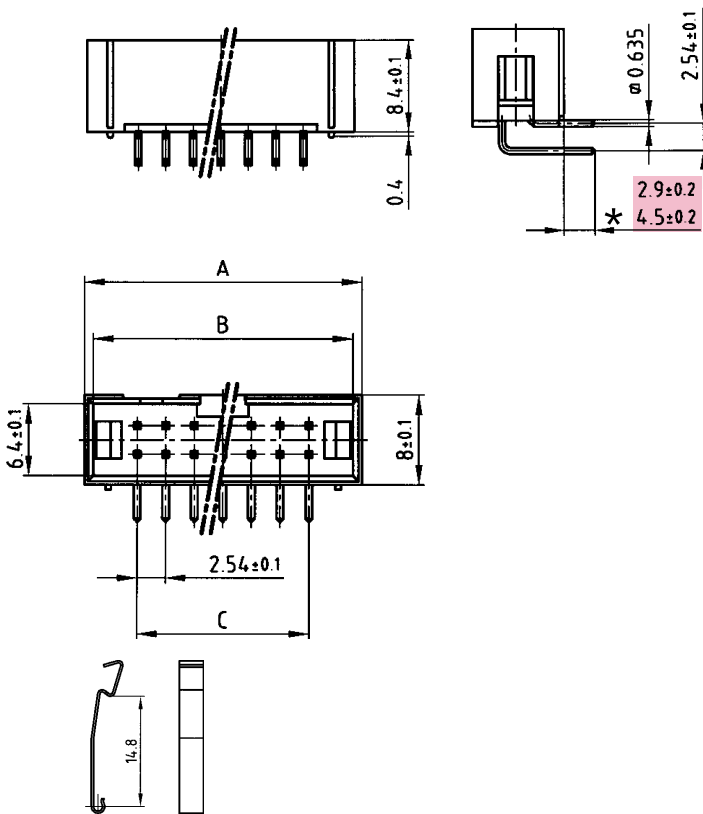


RoHS compliant

DESCRIPTION

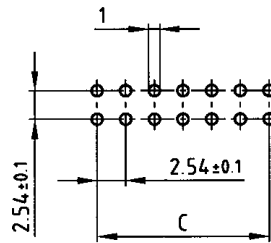
- Solder pin
- Pin length 2.9 mm alternative 4.5 mm (*) on request
- 10 to 64 positions
- Center polarization
- Space saving version
- Clip latches need to be ordered separately

PRODUCT DRAWING



Clip latches
Part no. 140 X 10039 X

PCB-hole pattern



No. of Pos.	A ±0.2	B ±0.1	C ±0.1
10	19.50	17.90	4x2.54=10.16
14	24.60	23.00	6x2.54=15.24
16	27.20	25.60	7x2.54=17.78
20	32.30	30.70	9x2.54=22.86
26	39.90	38.30	12x2.54=30.48
34	50.10	48.50	16x2.54=40.64
40	57.80	56.20	19x2.54=48.26
50	70.50	68.90	24x2.54=60.96
64	89.10	86.40	31x2.54=78.74

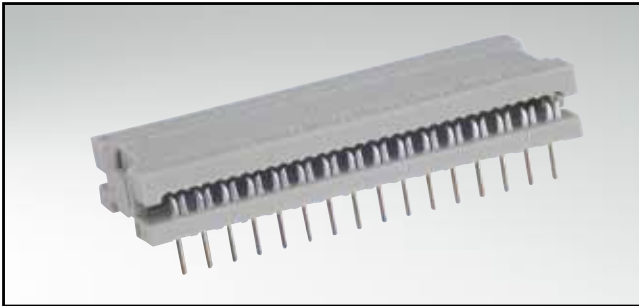
ORDER DATA

(Dim. = mm)

No. of Pos.	Pin length 2.9 mm	Pin length 4.5 mm*	No. of Pos.	Pin length 2.9 mm	Pin length 4.5 mm*
10	141 A 11909 X	141 A 11999 X	34	141 A 11959 X	141 A 12049 X
14	141 A 11919 X	141 A 12009 X	40	141 A 11969 X	141 A 12059 X
16	141 A 11929 X	141 A 12019 X	50	141 A 11979 X	141 A 12069 X
20	141 A 11939 X	141 A 12029 X	60	141 A 12399 X	141 A 12459 X
26	141 A 11949 X	141 A 12039 X			

FLATCABLE CONNECTORS

Dip connector – 4 to 40 positions

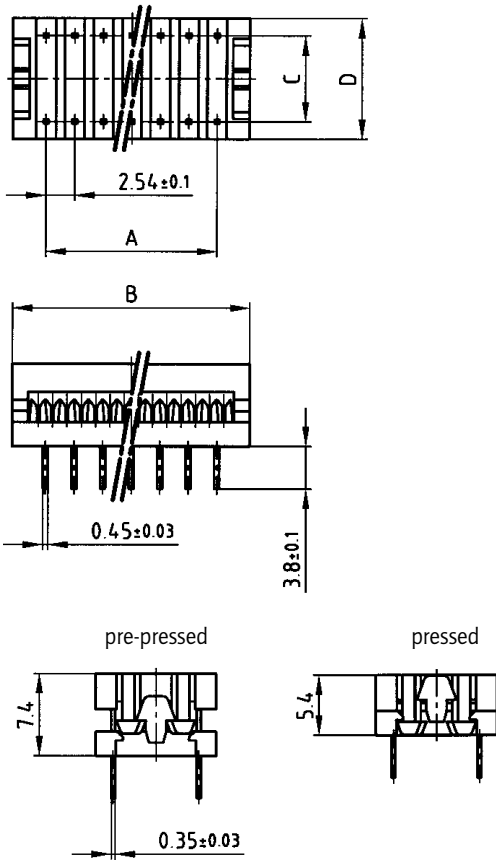


RoHS compliant

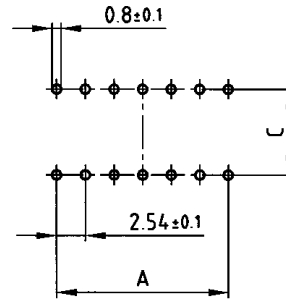
DESCRIPTION

- Insulation displacement termination (IDC)
- Contact spacing 2.54 mm
- Contact plating: gold or tin plated

PRODUCT DRAWING



PCB-hole pattern



No. of Pos.	A ±0.1	B ±0.2	C ±0.1	D -0.1
4	2.54	8.41	7.62	10.7
6	2x2.54=5.08	10.95	7.62	10.7
8	3x2.54=7.62	13.49	7.62	10.7
10	4x2.54=10.16	16.03	7.62	10.7
12	5x2.54=12.70	18.57	7.62	10.7
14	6x2.54=15.24	21.11	7.62	10.7
16	7x2.54=17.78	23.56	7.62	10.7
18	8x2.54=20.32	26.19	7.62	10.7
20	9x2.54=22.86	28.73	7.62	10.7
22	10x2.54=25.40	31.35	10.16	13.2
24	11x2.54=27.94	33.60	15.24	18.3
28	13x2.54=33.02	38.97	15.24	18.3
32	15x2.54=38.10	44.05	15.24	18.3
36	17x2.54=43.18	49.13	15.24	18.3
40	19x2.54=48.26	53.90	15.24	18.3

ORDER DATA

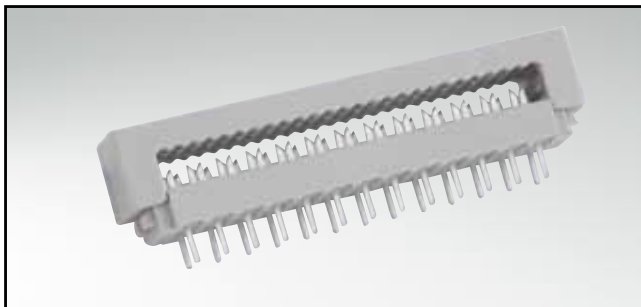
(Dim. = mm)

No. of Pos.	gold plated	tin plated
4	220 A 10019 X	220 F 10019 X
6	220 A 10029 X	220 F 10029 X
8	220 A 10039 X	220 F 10039 X
10	220 A 10049 X	220 F 10049 X
12	220 A 10059 X	220 F 10059 X
14	220 A 10069 X	220 F 10069 X
16	220 A 10079 X	220 F 10079 X
18	220 A 10089 X	220 F 10089 X

No. of Pos.	gold plated	tin plated
20	220 A 10099 X	220 F 10099 X
22	220 A 10109 X	220 F 10109 X
24	220 A 10119 X	220 F 10119 X
28	220 A 10129 X	220 F 10129 X
32	220 A 10139 X	220 F 10139 X
36	220 A 10149 X	220 F 10149 X
40	220 A 10159 X	220 F 10159 X

FLATCABLE CONNECTORS

PCB connector – 10 to 64 positions

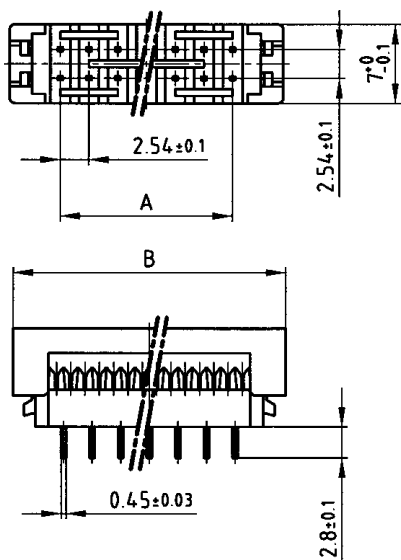


RoHS compliant

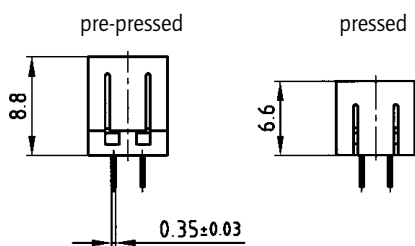
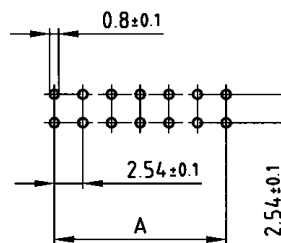
DESCRIPTION

- Insulation displacement termination (IDC)
- Contact spacing 2.54 mm
- Contact plating: gold or tin plated

PRODUCT DRAWING



PCB-hole pattern



No. of Pos.	A ± 0.1	B ± 0.2
10	4x2.54 = 10.16	19.15
14	6x2.54 = 15.24	24.25
16	7x2.54 = 17.78	26.82
20	9x2.54 = 22.86	31.90
26	12x2.54 = 30.48	39.50
34	16x2.54 = 40.64	49.68
40	19x2.54 = 48.26	57.30
50	24x2.54 = 60.96	70.00
60	29x2.54 = 73.66	82.75
64	31x2.54 = 78.74	87.78

ORDER DATA

(Dim. = mm)

No. of Pos.	tin plated	No. of Pos.	tin plated
10	220 F 10169 X	34	220 F 10219 X
14	220 F 10179 X	40	220 F 10229 X
16	220 F 10189 X	50	220 F 10239 X
20	220 F 10199 X	60	220 F 10249 X
26	220 F 10209 X	64	220 F 10259 X

FLATCABLE CONNECTORS

D-SUB IDC – stamped contacts – 9 to 37 positions



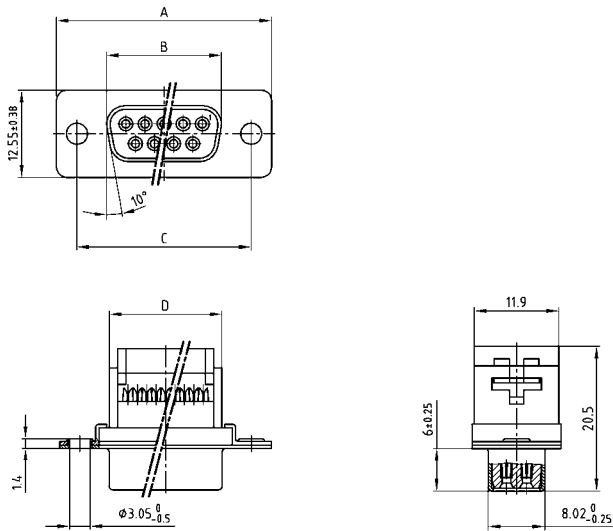
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E202784

DESCRIPTION

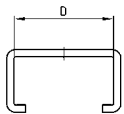
- For wire size AWG 26 to 28 flatcable
- Mounting style: with through-hole, Ø 3 mm
- Connector includes strain relief
- Quality class 3 (other quality classes on request)
- Shell: steel tin plated

PRODUCT DRAWING

Socket connector

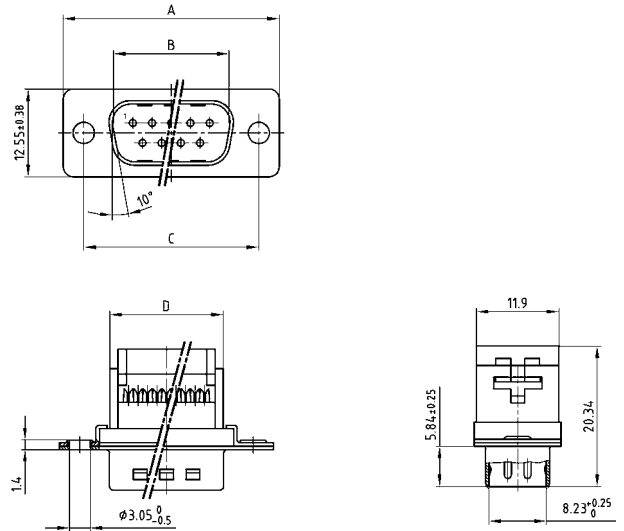


Strain relief

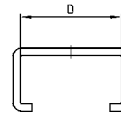


No. of Pos.	A ± 0.25	B ± 0.25	C ± 0.25	D ± 0.25
09	30.80	16.46	25.00	16.10
15	39.10	24.79	33.30	24.00
25	53.09	38.50	47.04	38.14
37	69.40	54.96	63.50	54.60

Plug connector



Strain relief



No. of Pos.	A ± 0.25	B ± 0.25	C ± 0.25	D ± 0.25
09	30.80	16.79	25.00	16.10
15	39.10	25.12	33.30	24.00
25	53.09	83.84	47.04	38.14
37	69.40	55.30	63.50	54.60

ORDER DATA

(Dim. = mm)

SOCKET CONNECTOR		
Number of positions	Mounting style	Part number
09	Through-hole	302 A 10089 X
15	Through-hole	302 A 10099 X
25	Through-hole	302 A 10109 X
37	Through-hole	302 A 10119 X

PLUG CONNECTOR		
Number of positions	Mounting style	Part number
09	Through-hole	301 A 10089 X
15	Through-hole	301 A 10099 X
25	Through-hole	301 A 10109 X
37	Through-hole	301 A 10119 X

FLATCABLE CONNECTORS

D-SUB IDC – stamped contacts – 9 to 37 positions



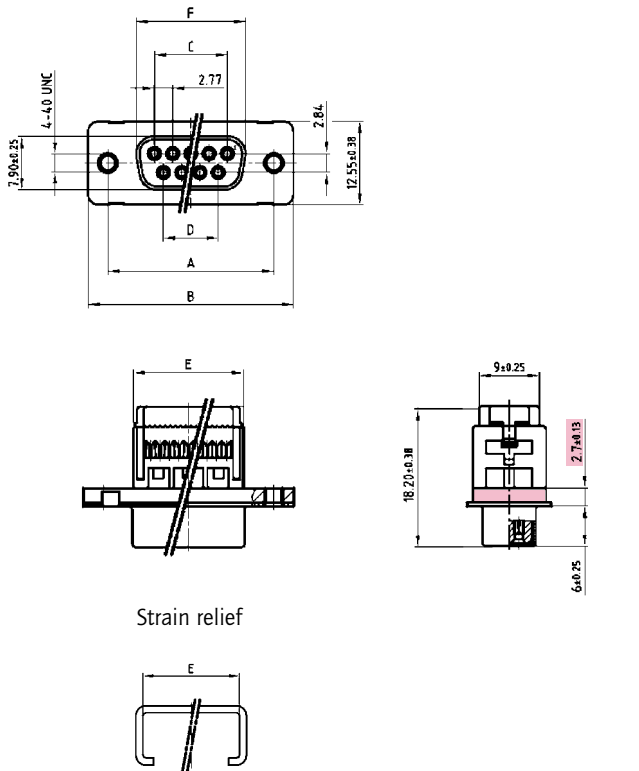
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E202784

DESCRIPTION

- For wire size AWG 26 to 28 flatcable
- Mounting style: with 4-40 UNC threaded insert
- Connector includes strain relief
- Quality class 3 (other quality classes on request)
- Shell: steel tin plated
- Not suitable for hood assembly

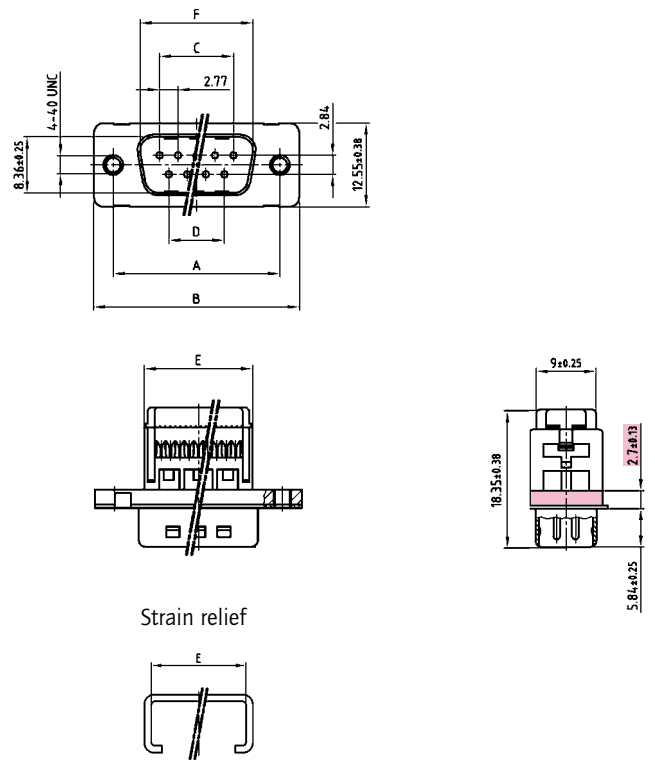
PRODUCT DRAWING

Socket connector



No. of Pos.	A ± 0.13	B ± 0.25	C ± 0.13	D ± 0.13	E ± 0.25	F ± 0.25
09	24.99	30.80	11.08	8.31	16.10	16.33
15	33.32	39.10	19.39	16.62	24.00	24.66
25	47.04	53.09	33.24	30.47	38.14	38.38
37	63.50	69.40	49.86	47.09	54.60	54.84

Plug connector



No. of Pos.	A ± 0.13	B ± 0.25	C ± 0.13	D ± 0.13	E ± 0.25	F ± 0.25
09	24.99	30.80	11.08	8.31	16.10	16.92
15	33.32	39.10	19.39	16.62	24.00	25.25
25	47.04	53.09	33.24	30.47	38.14	38.96
37	63.50	69.40	49.86	47.09	54.60	55.45

ORDER DATA

(Dim. = mm)

SOCKET CONNECTOR		
Number of positions	Mounting style	Part number
09	Threaded insert 4-40 UNC	DLS 1XSSAG04 X
15	Threaded insert 4-40 UNC	DLS 2XSSAG04 X
25	Threaded insert 4-40 UNC	DLS 3XSSAG04 X
37	Threaded insert 4-40 UNC	DLS 4XSSAG04 X

PLUG CONNECTOR		
Number of positions	Mounting style	Part number
09	Threaded insert 4-40 UNC	DLS 1XPSAG04 X
15	Threaded insert 4-40 UNC	DLS 2XPSAG04 X
25	Threaded insert 4-40 UNC	DLS 3XPSAG04 X
37	Threaded insert 4-40 UNC	DLS 4XPSAG04 X

FLATCABLE CONNECTORS

D-SUB IDC – stamped contacts – 9 to 37 positions



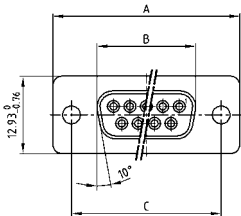
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E202784

DESCRIPTION

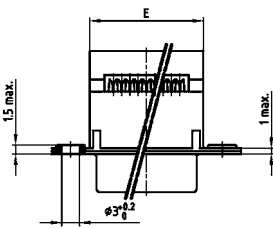
- For wire size AWG 26 to 28 flatcable
- Mounting style: with through-hole, Ø 3 mm
- Strain relief need to be ordered separately
- Quality class 3 (also available in quality class 1)
- Shell: Steel tin plated

PRODUCT DRAWING

Socket connector



Mounting style: Through-hole

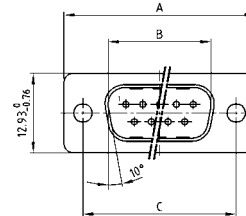


Strain relief

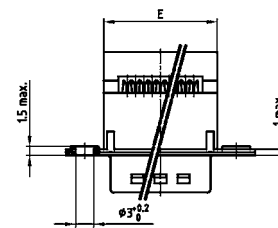


No. of Pos.	A -0.76	B +0.25	C	E +0.10
09	30.80	16.30	25.00 +0.12	18.73
15	39.20	24.60	33.30 +0.15 -0.10	26.86
25	53.10	38.30	47.04 +0.13	40.78
37	69.40	54.80	63.50 +0.13	57.04

Plug connector



Mounting style: Through-hole



Strain relief



No. of Pos.	A -0.76	B +0.25	C	E +0.10
09	30.80	16.79	25.00 +0.12	18.73
15	39.20	25.12	33.30 +0.15 -0.10	26.86
25	53.10	38.84	47.04 +0.13	40.78
37	69.40	55.30	63.50 +0.13	57.04

ORDER DATA

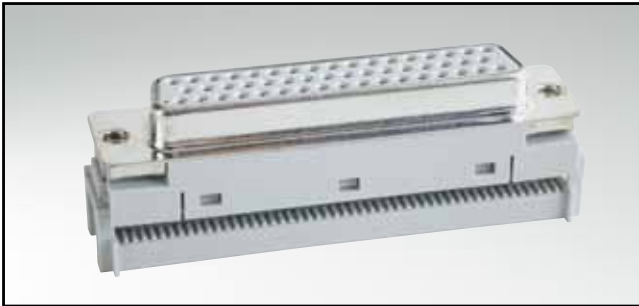
(Dim. = mm)

SOCKET CONNECTOR		
Number of positions	Mounting style	Part number
09	Through-hole	162 A 11899 X
15	Through-hole	162 A 11909 X
25	Through-hole	162 A 11919 X
37	Through-hole	162 A 11929 X
09	Strain relief	160 X 10019 X
15	Strain relief	160 X 10029 X
25	Strain relief	160 X 10039 X
37	Strain relief	160 X 10049 X

PLUG CONNECTOR		
Number of positions	Mounting style	Part number
09	Through-hole	161 A 13499 X
15	Through-hole	161 A 13509 X
25	Through-hole	161 A 13519 X
37	Through-hole	161 A 13529 X
09	Strain relief	160 X 10019 X
15	Strain relief	160 X 10029 X
25	Strain relief	160 X 10039 X
37	Strain relief	160 X 10049 X

FLATCABLE CONNECTORS

D-SUB IDC – stamped contacts – 50 positions



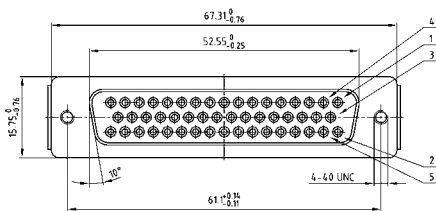
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E202784

DESCRIPTION

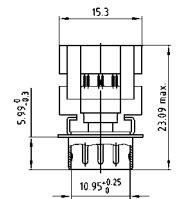
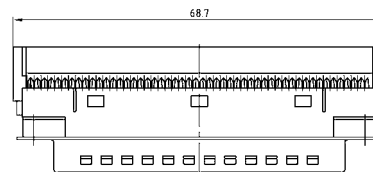
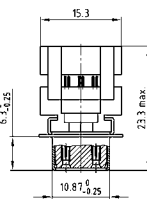
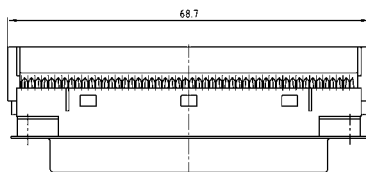
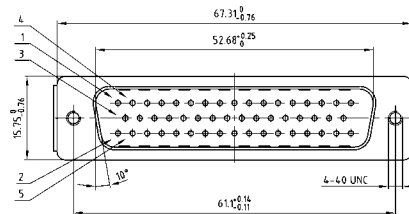
- For wire size AWG 26 to 28 flatcable
- Mounting style: with 4-40 UNC threaded insert
- Strain relief need to be ordered separately
- Quality class 3 (also available in quality class 1)
- Shell: Steel tin plated

PRODUCT DRAWING

Socket connector



Plug connector



Strain relief



Strain relief



ORDER DATA

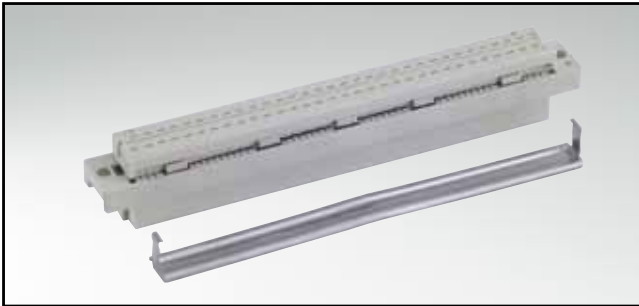
(Dim. = mm)

SOCKET CONNECTOR		
Number of positions	Mounting style	Part number
50	Threaded insert 4-40 UNC	162 A 11939 X
50	Strain relief	160 X 10059 X

PLUG CONNECTOR		
Number of positions	Mounting style	Part number
50	Threaded insert 4-40 UNC	161 A 13539 X
50	Strain relief	160 X 10059 X

FLATCABLE CONNECTORS

Type C – female connector – Insulation displacement termination (IDC) – 64 positions

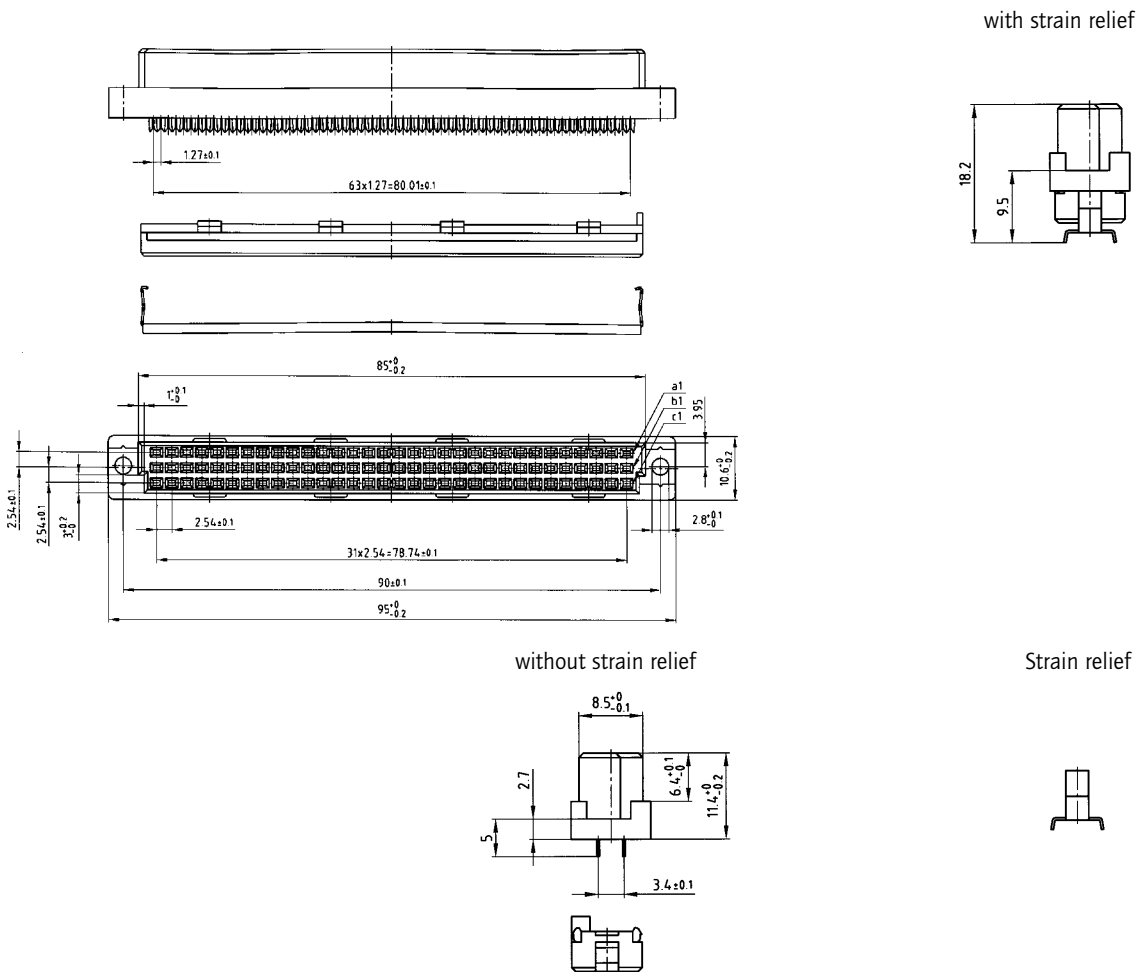


RoHS compliant

DESCRIPTION

- Flat cable termination
- Strain relief need to be ordered separately
- Quality class 3 (also available in quality class 2 or 1)

PRODUCT DRAWING



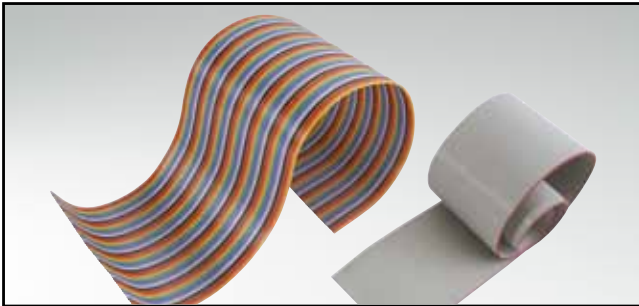
ORDER DATA

(Dim. = mm)

No. of Pos.	• = contact, + = no contact						Female connector without strain relief	Strain relief
	Pos	1	2	3	4	5		
64	a	•	•	•	•	•	122 A 11699 X	120 X 10169 X
	b	+	+	+	+	+		
	c	•	•	•	•	•		

FLATCABLE

Grey or color-coded



RoHS compliant

DESCRIPTION

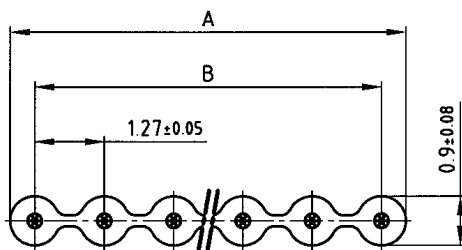
Flat cable **colored grey**

- Flame-retardant ref. class UL-VW-1
- UL-Style No. 2651

Flat cable **color-coded**

- Flame-retardant ref. class UL-VW-1
- UL-Style No. 2651

PRODUCT DRAWING



Technical Data	
Conductor:	Cu tin plated
Dielectric strength:	> 2 kV at 50 Hz, at acc. over one minute
Insulation:	min. 100 Ω x km at 20 °C
Conductor resistant:	max. 216 Ω / km at 20 °C
Capacitance:	max. 60 pf / m at 1 kHz
Impedance (GSG):	ca. 100 Ω at 1MHz
Current rating:	max. 2,1 A at 25 °C
Working voltage:	max. 300 V
Temperature range:	at rest: -30 °C to +105 °C (-40 °C per ISO6722) in motion: -20 °C to +105 °C (-40 °C per ISO6722)

No. of Pos.	A	B
10	12.70 ^{+0.25}	11.43 ^{+0.18}
14	17.78 ^{+0.25}	16.51 ^{+0.18}
16	20.32 ^{+0.38}	19.05 ^{+0.28}
20	25.40 ^{+0.38}	24.13 ^{+0.28}
25	31.75 ^{+0.38}	30.48 ^{+0.28}
34	43.18 ^{+0.51}	41.91 ^{+0.38}
40	50.80 ^{+0.51}	49.53 ^{+0.38}
50	63.50 ^{+0.51}	62.23 ^{+0.38}
64	81.28 ^{+0.51}	80.01 ^{+0.38}

Flame-retardant ref. class UL-VW-1 / CSA FT-1

(Dim. = mm)

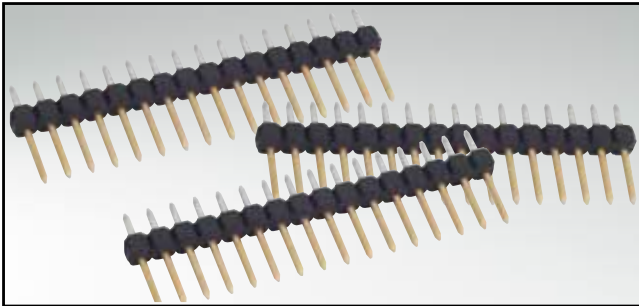
ORDER DATA

No. of Pos.	Flat cable grey
10	145 X 10029 X
14	145 X 10039 X
16	145 X 10059 X
20	145 X 10069 X
25	145 X 10089 X
34	145 X 10109 X
40	145 X 10129 X
50	145 X 10139 X
64	145 X 10159 X

No. of Pos.	Flat cable color-coded
10	145 X 10179 X
14	145 X 10189 X
16	145 X 10209 X
20	145 X 10219 X
25	145 X 10239 X
34	145 X 10259 X
40	145 X 10279 X
50	145 X 10289 X
64	145 X 10309 X

CSU - PIN HEADER

Straight version – one and two rows



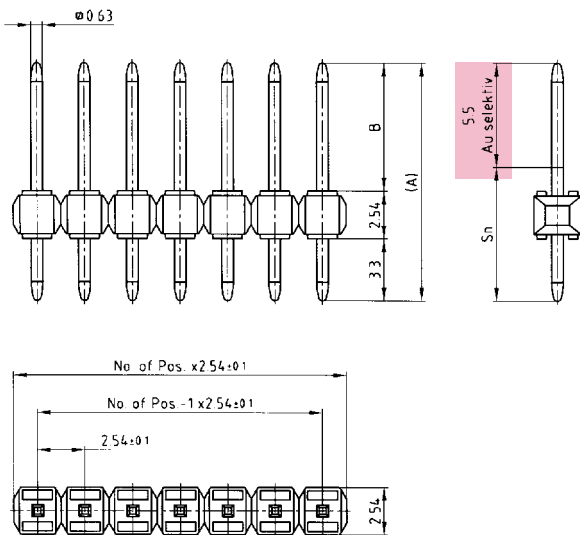
RoHS compliant

DESCRIPTION

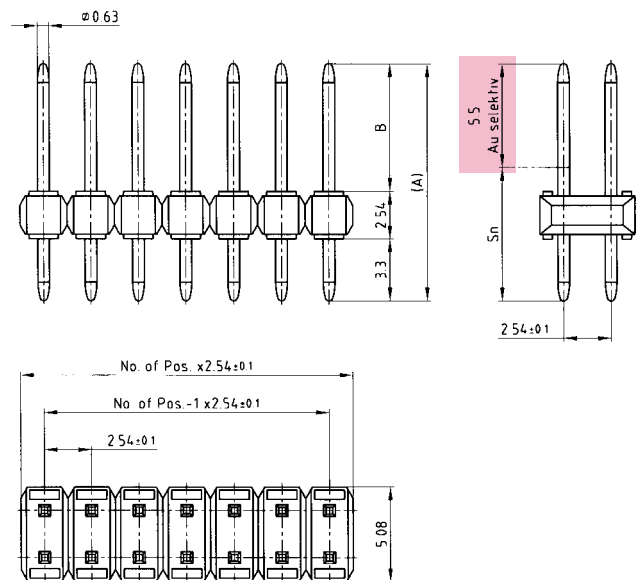
- Solder pin
- Contact spacing 2.54 mm
- One row: 5, 10, 20, 30, 40 and 50 positions
- Two row: 10, 20, 40, 60, 80 and 100 positions
- Further positions on request
- Contact plating:
 - gold plated in mating area and tin in solder area
 - completely tin plated
- Other platings on request

PRODUCT DRAWING

One row straight



Two row straight



Pin length A	B ^{±0.1}
11,3	5,46
12,6	6,76
14,7	8,66
17,7	11,86
19,8	13,96
21,6	15,76
24,9	19,06

ORDER DATA

(Dim. = mm)

ONE ROW – STRAIGHT – PIN LENGTH 11.3 MM		
Number of positions	gold plated	tin plated
5	201 A 12059 X	201 F 12059 X
10	201 A 12109 X	201 F 12109 X
20	201 A 12209 X	201 F 12209 X
30	201 A 12309 X	201 F 12309 X
40	201 A 22159 X	201 F 22159 X
50	201 A 22259 X	201 F 22259 X

TWO ROW – STRAIGHT – PIN LENGTH 11.3 MM		
Number of positions	gold plated	tin plated
10	201 A 12419 X	201 F 12419 X
20	201 A 12469 X	201 F 12469 X
40	201 A 12569 X	201 F 12569 X
60	201 A 12669 X	201 F 12669 X
80	201 A 22299 X	201 F 22299 X
100	201 A 22399 X	201 F 22399 X

ONE ROW – STRAIGHT – PIN LENGTH 12.6 MM		
Number of positions	gold plated	tin plated
5	201 A 10059 X	201 F 10059 X
10	201 A 10109 X	201 F 10109 X
20	201 A 10209 X	201 F 10209 X
30	201 A 10309 X	201 F 10309 X
40	201 A 22439 X	201 F 22439 X
50	201 A 22539 X	201 F 22539 X

TWO ROW – STRAIGHT – PIN LENGTH 12.6 MM		
Number of positions	gold plated	tin plated
10	201 A 10419 X	201 F 10419 X
20	201 A 10469 X	201 F 10469 X
40	201 A 10569 X	201 F 10569 X
60	201 A 10669 X	201 F 10669 X
80	201 A 22579 X	201 F 22579 X
100	201 A 22679 X	201 F 22679 X

CSU - PIN HEADER

Straight version – one and two rows

ORDER DATA

ONE ROW – STRAIGHT – PIN LENGTH 14.7 MM		
Number of positions	gold plated	tin plated
5	201 A 12779 X	201 F 12779 X
10	201 A 12829 X	201 F 12829 X
20	201 A 12929 X	201 F 12929 X
30	201 A 13029 X	201 F 13029 X
40	201 A 22719 X	201 F 22719 X
50	201 A 22819 X	201 F 22819 X

ONE ROW - STRAIGHT – PIN LENGTH 17.7 MM		
Number of positions	gold plated	tin plated
5	201 A 13499 X	201 F 13499 X
10	201 A 13549 X	201 F 13549 X
20	201 A 13649 X	201 F 13649 X
30	201 A 13749 X	201 F 13749 X
40	201 A 22999 X	201 F 22999 X
50	201 A 23099 X	201 F 23099 X

ONE ROW – STRAIGHT – PIN LENGTH 19.8 MM		
Number of positions	gold plated	tin plated
5	201 A 14219 X	201 F 14219 X
10	201 A 14269 X	201 F 14269 X
20	201 A 14369 X	201 F 14369 X
30	201 A 14469 X	201 F 14469 X
40	201 A 23279 X	201 F 23279 X
50	201 A 23379 X	201 F 23379 X

ONE ROW – STRAIGHT – PIN LENGTH 21.6 MM		
Number of positions	gold plated	tin plated
5	201 A 14939 X	201 F 14939 X
10	201 A 14989 X	201 F 14989 X
20	201 A 15089 X	201 F 15089 X
30	201 A 15189 X	201 F 15189 X
40	201 A 23559 X	201 F 23559 X
50	201 A 23659 X	201 F 23659 X

ONE ROW – STRAIGHT – PIN LENGTH 24.9 MM		
Number of positions	gold plated	tin plated
5	201 A 15659 X	201 F 15659 X
10	201 A 15709 X	201 F 15709 X
20	201 A 15809 X	201 F 15809 X
30	201 A 15909 X	201 F 15909 X
40	201 A 23839 X	201 F 23839 X
50	201 A 23939 X	201 F 23939 X

TWO ROW – STRAIGHT – PIN LENGTH 14.7 MM		
Number of positions	gold plated	tin plated
10	201 A 13139 X	201 F 13139 X
20	201 A 13189 X	201 F 13189 X
40	201 A 13289 X	201 F 13289 X
60	201 A 13389 X	201 F 13389 X
80	201 A 22859 X	201 F 22859 X
100	201 A 22959 X	201 F 22959 X

TWO ROW - STRAIGHT – PIN LENGTH 17.7 MM		
Number of positions	gold plated	tin plated
10	201 A 13859 X	201 F 13859 X
20	201 A 13909 X	201 F 13909 X
40	201 A 14009 X	201 F 14009 X
60	201 A 14109 X	201 F 14109 X
80	201 A 23139 X	201 F 23139 X
100	201 A 23239 X	201 F 23239 X

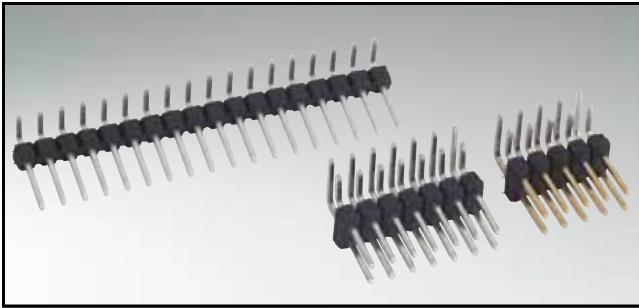
TWO ROW – STRAIGHT – PIN LENGTH 19.8 MM		
Number of positions	gold plated	tin plated
10	201 A 14579 X	201 F 14579 X
20	201 A 14629 X	201 F 14629 X
40	201 A 14729 X	201 F 14729 X
60	201 A 14829 X	201 F 14829 X
80	201 A 23419 X	201 F 23419 X
100	201 A 23519 X	201 F 23519 X

TWO ROW – STRAIGHT – PIN LENGTH 21.6 MM		
Number of positions	gold plated	tin plated
10	201 A 15299 X	201 F 15299 X
20	201 A 15349 X	201 F 15349 X
40	201 A 15449 X	201 F 15449 X
60	201 A 15549 X	201 F 15549 X
80	201 A 23699 X	201 F 23699 X
100	201 A 23799 X	201 F 23799 X

TWO ROW – STRAIGHT – PIN LENGTH 24.9 MM		
Number of positions	gold plated	tin plated
10	201 A 16019 X	201 F 16019 X
20	201 A 16069 X	201 F 16069 X
40	201 A 16169 X	201 F 16169 X
60	201 A 16269 X	201 F 16269 X
80	201 A 23979 X	201 F 23979 X
100	201 A 24079 X	201 F 24079 X

CSU - PIN HEADER

Angled version – one and two row



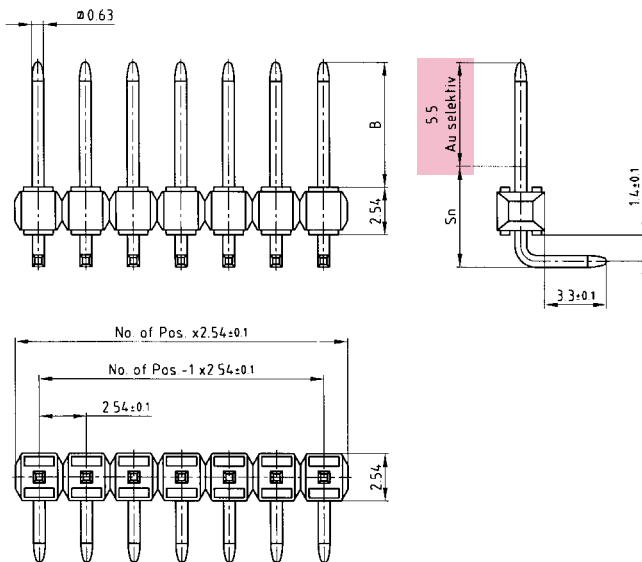
RoHS compliant

DESCRIPTION

- Solder pin
- Contact spacing 2.54 mm
- One row: 5, 10, 20, 30, 40 and 50 positions
- Two row: 10, 20, 40, 60, 80 and 100 positions
- Further positions on request
- Contact plating:
 - gold plated in mating area and tin in solder area
 - completely tin plated
- Other platings on request

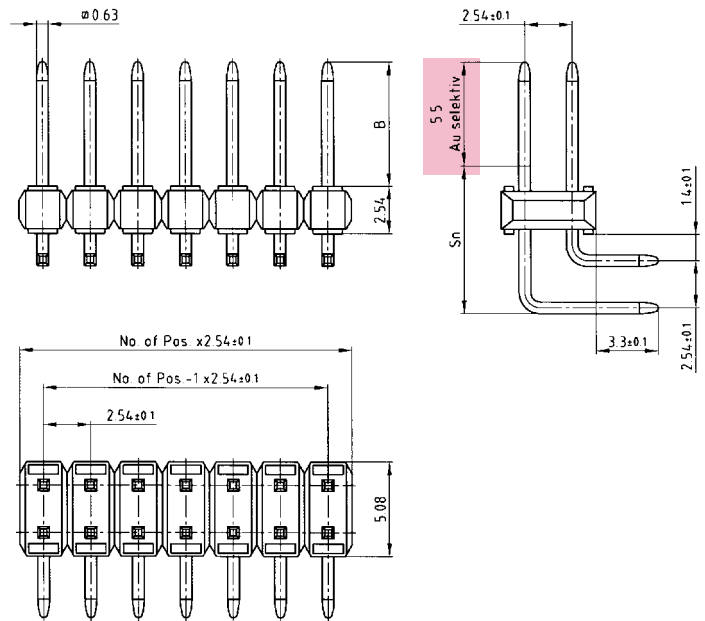
PRODUCT DRAWING

One row angled



One row angled	
Pin length	B ± 0.1
12.6 mm	04.5
14.7 mm	06.6
17.7 mm	09.6
19.8 mm	11.7
21.6 mm	13.5
24.9 mm	16.8

Two row angled



Two row angled		
Pin length inner row	Pin length outer row	B ± 0.1
12.6 mm	17.7 mm	4.5
14.7 mm	19.8 mm	6.6

(Dim. = mm)

CSU - PIN HEADER

Angled version – one and two row

ORDER DATA

ONE ROW – ANGLED – PIN LENGTH 12.6 MM		
Number of positions	gold plated	tin plated
5	201 A 16379 X	201 F 16379 X
10	201 A 16429 X	201 F 16429 X
20	201 A 16529 X	201 F 16529 X
30	201 A 16629 X	201 F 16629 X
40	201 A 24119 X	201 F 24119 X
50	201 A 24219 X	201 F 24219 X

ONE ROW – ANGLED – PIN LENGTH 14.7 MM		
Number of positions	gold plated	tin plated
5	201 A 10779 X	201 F 10779 X
10	201 A 10829 X	201 F 10829 X
20	201 A 10929 X	201 F 10929 X
30	201 A 11029 X	201 F 11029 X
40	201 A 24399 X	201 F 24399 X
50	201 A 24499 X	201 F 24499 X

ONE ROW – ANGLED – PIN LENGTH 17.7 MM		
Number of positions	gold plated	tin plated
5	201 A 17099 X	201 F 17099 X
10	201 A 17149 X	201 F 17149 X
20	201 A 17249 X	201 F 17249 X
30	201 A 17349 X	201 F 17349 X
40	201 A 24679 X	201 F 24679 X
50	201 A 24779 X	201 F 24779 X

ONE ROW – ANGLED – PIN LENGTH 19.8 MM		
Number of positions	gold plated	tin plated
5	201 A 17459 X	201 F 17459 X
10	201 A 17509 X	201 F 17509 X
20	201 A 17609 X	201 F 17609 X
30	201 A 17709 X	201 F 17709 X
40	201 A 24819 X	201 F 24819 X
50	201 A 24919 X	201 F 24919 X

ONE ROW – ANGLED – PIN LENGTH 21.6 MM		
Number of positions	gold plated	tin plated
5	201 A 17819 X	201 F 17819 X
10	201 A 17869 X	201 F 17869 X
20	201 A 17969 X	201 F 17969 X
30	201 A 18069 X	201 F 18069 X
40	201 A 24959 X	201 F 24959 X
50	201 A 25059 X	201 F 25059 X

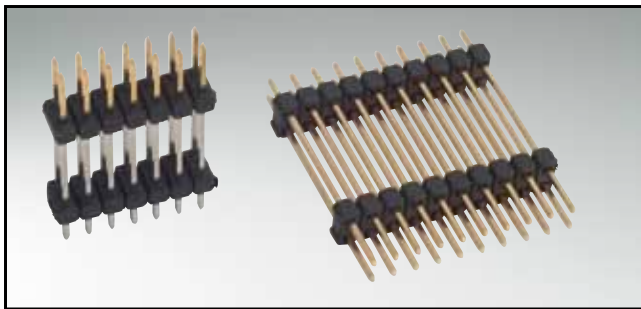
ONE ROW – ANGLED – PIN LENGTH 24.9 MM		
Number of positions	gold plated	tin plated
5	201 A 18179 X	201 F 18179 X
10	201 A 18229 X	201 F 18229 X
20	201 A 18329 X	201 F 18329 X
30	201 A 18429 X	201 F 18429 X
40	201 A 25099 X	201 F 25099 X
50	201 A 25199 X	201 F 25199 X

TWO ROW – ANGLED – PIN LENGTH 12.6/17.7 MM		
Number of positions	gold plated	tin plated
10	201 A 16739 X	201 F 16739 X
20	201 A 16789 X	201 F 16789 X
40	201 A 16889 X	201 F 16889 X
60	201 A 16989 X	201 F 16989 X
80	201 A 24259 X	201 F 24259 X
100	201 A 24359 X	201 F 24359 X

TWO ROW – ANGLED – PIN LENGTH 14.7/19.8 MM		
Number of positions	gold plated	tin plated
10	201 A 11139 X	201 F 11139 X
20	201 A 11189 X	201 F 11189 X
40	201 A 11289 X	201 F 11289 X
60	201 A 11389 X	201 F 11389 X
80	201 A 24539 X	201 F 24539 X
100	201 A 24639 X	201 F 24639 X

CSU - PIN HEADER

Double hood – straight – one and two row



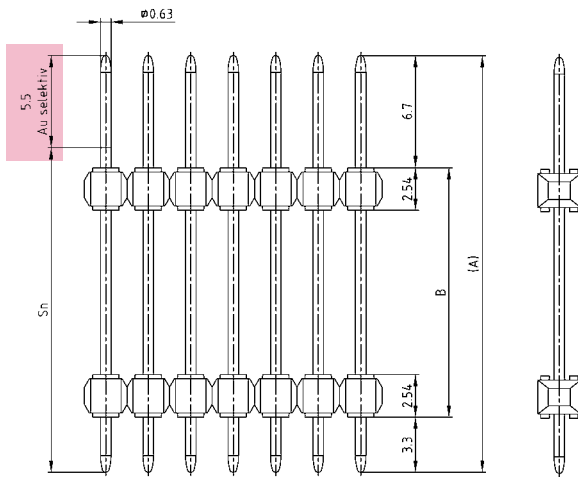
RoHS compliant

DESCRIPTION

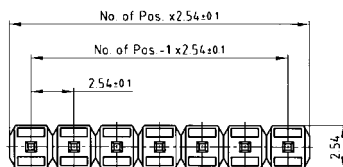
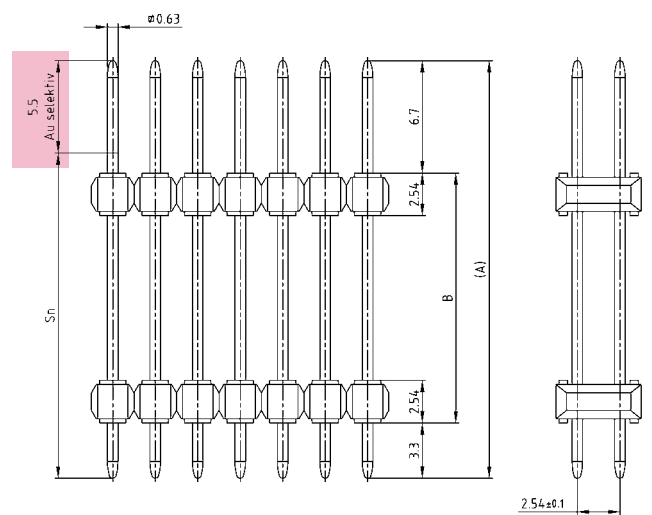
- Solder pin
- Contact spacing 2.54 mm
- One row: 5, 10, 20, 30, 40 and 50 positions
- Two row: 10, 20, 40, 60, 80 and 100 positions
- Further positions on request
- Contact plating
 - gold plated in mating area and tin in solder area
 - completely tin plated
- Other platings on request

PRODUCT DRAWING

One row straight



Two row straight



Pin length A	B ^{+0.1}
24.9	14.9
29.0	19.0

ORDER DATA

(Dim. = mm)

ONE ROW – STRAIGHT – PIN LENGTH 24.9 MM		
Number of positions	gold plated	tin plated
5	201 A 18539 X	201 F 18539 X
10	201 A 18589 X	201 F 18589 X
20	201 A 18689 X	201 F 18689 X
30	201 A 18789 X	201 F 18789 X
40	201 A 25239 X	201 F 25239 X
50	201 A 25339 X	201 F 25339 X

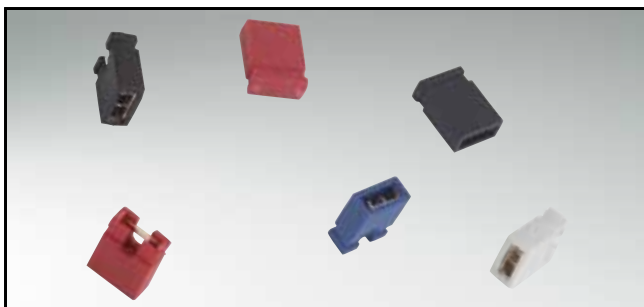
TWO ROW – STRAIGHT – PIN LENGTH 24.9 MM		
Number of positions	gold plated	tin plated
10	201 A 18899 X	201 F 18899 X
20	201 A 18949 X	201 F 18949 X
40	201 A 19049 X	201 F 19049 X
60	201 A 19149 X	201 F 19149 X
80	201 A 25379 X	201 F 25379 X
100	201 A 25479 X	201 F 25479 X

ONE ROW – STRAIGHT – PIN LENGTH 29.0 MM		
Number of positions	gold plated	tin plated
5	201 A 19259 X	201 F 19259 X
10	201 A 19309 X	201 F 19309 X
20	201 A 19409 X	201 F 19409 X
30	201 A 19509 X	201 F 19509 X
40	201 A 25519 X	201 F 25519 X
50	201 A 25619 X	201 F 25619 X

TWO ROW – STRAIGHT – PIN LENGTH 29.0 MM		
Number of positions	gold plated	tin plated
10	201 A 19619 X	201 F 19619 X
20	201 A 19669 X	201 F 19669 X
40	201 A 19769 X	201 F 19769 X
60	201 A 19869 X	201 F 19869 X
80	201 A 25659 X	201 F 25659 X
100	201 A 25759 X	201 F 25759 X

SHORT CIRCUIT PLUG

Open and closed version



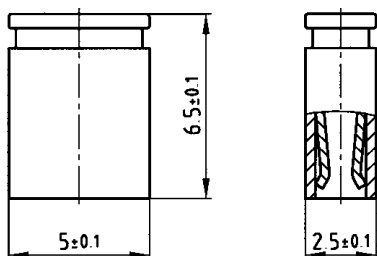
RoHS compliant

DESCRIPTION

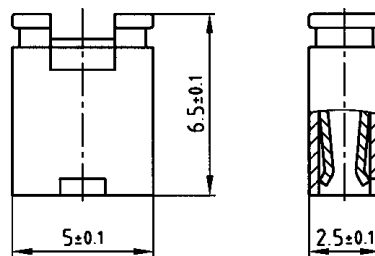
- Gold plated contacts
- Contact spacing 2.54 mm
- Several colors

PRODUCT DRAWING

Closed version



Open version



Technical Data

Contacts:	Phosphorbronze
Insulator:	PA 6,6 UL 94 V-0
Contact resistance:	≤ 7 mΩ
Current rating:	2,5 A
Insulation resistance:	10 ¹² Ω
Withdrawal force:	≤ 3 N
Insertion force:	≤ 6 N
Temperature range:	-65°C to +150°C
Contact surface:	Gold over nickel
Contact spacing:	2,54 mm

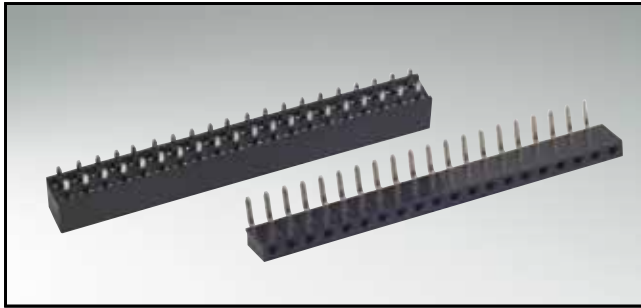
ORDER DATA

(Dim. = mm)

Color	closed version	Color	open version
grey	200 A 10069 X	grey	200 A 10019 X
black	200 A 10079 X	black	200 A 10029 X
blue	200 A 10089 X	blue	200 A 10039 X
red	200 A 10099 X	red	200 A 10049 X
green	200 A 10109 X	green	200 A 10059 X

CBL - SOCKET CONNECTOR

Straight and angled – one and two row – installation height 5.7 mm



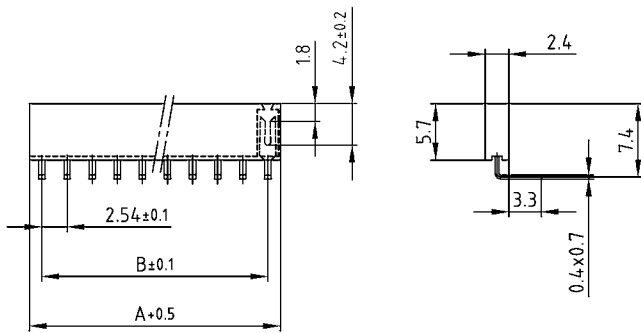
RoHS compliant

DESCRIPTION

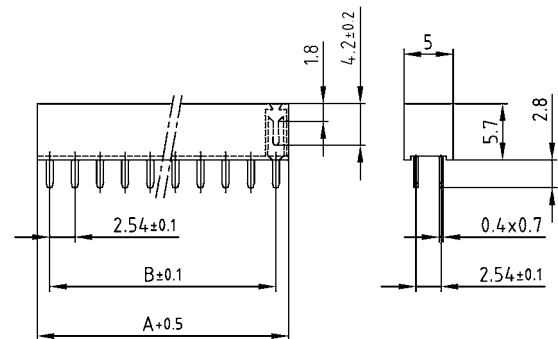
- Solder pin
- Contact spacing 2.54 mm
- One row: 5, 10 and 20 positions
- Two row: 10, 20 and 40 positions
- Further positions on request
- Contact plating: gold or tin plated
- Suitable for CSU pin headers

PRODUCT DRAWING

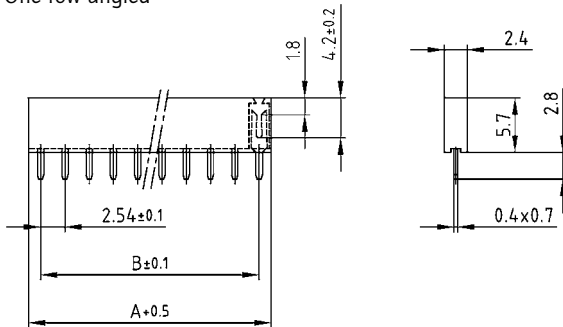
One row straight



Two row straight



One row angled



No. of Pos.		A ±0.5	B ±0.1
One row	Two row		
5	10	12.7	4x2.54=10.16
10	20	25.4	9x2.54=22.86
20	40	50.8	19x2.54=48.26

ORDER DATA

(Dim. = mm)

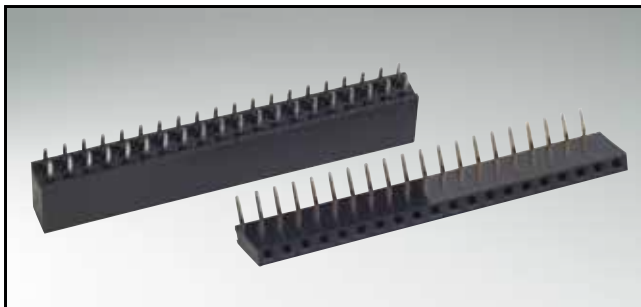
ONE ROW – STRAIGHT		
No. of Pos.	gold plated	tin plated
5	202 A 10019 X	202 F 10019 X
10	202 A 10029 X	202 F 10029 X
20	202 A 10039 X	202 F 10039 X

TWO ROW – STRAIGHT		
No. of Pos.	gold plated	tin plated
10	202 A 10079 X	202 F 10079 X
20	202 A 10089 X	202 F 10089 X
40	202 A 10099 X	202 F 10099 X

ONE ROW – ANGLED		
No. of Pos.	gold plated	tin plated
5	202 A 10049 X	202 F 10049 X
10	202 A 10059 X	202 F 10059 X
20	202 A 10069 X	202 F 10069 X

CBL SOCKET CONNECTOR

Straight – one and two row – installation height 8.5 mm



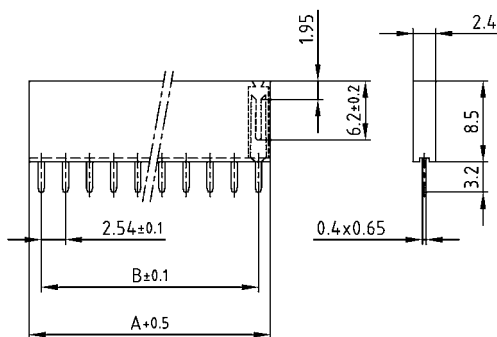
RoHS compliant

DESCRIPTION

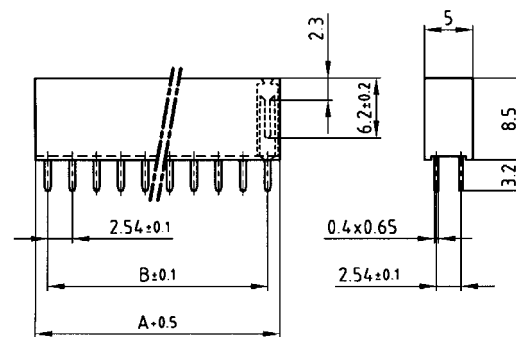
- Solder pin
- Contact spacing 2.54 mm
- One row: 5, 10 and 20 positions
- Two row: 10, 20 and 40 positions
- Further positions on request
- Contact plating: gold plated or tin plated
- Suitable for CSU pin headers

PRODUCT DRAWING

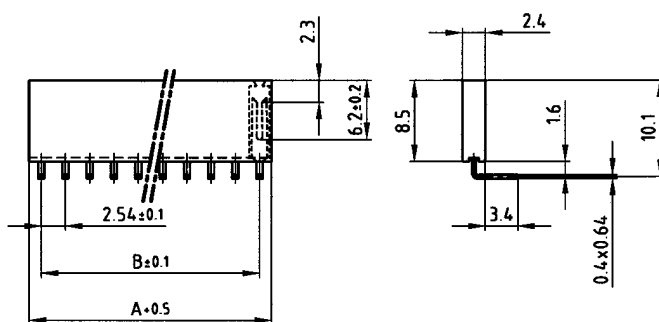
One row straight



Two row straight



One row angled



No. of Pos.		A + 0.5	B ± 0.1
one row	two row		
5	10	12.7	4 x 2.54 = 10.16
10	20	25.4	9 x 2.54 = 22.86
20	40	50.8	19 x 2.54 = 48.26

ORDER DATA

(Dim. = mm)

ONE ROW – STRAIGHT		
No. of Pos.	gold plated	tin plated
5	202 A 10109 X	202 F 10109 X
10	202 A 10119 X	202 F 10119 X
20	202 A 10129 X	202 F 10129 X

TWO ROW – STRAIGHT		
No. of Pos.	gold plated	tin plated
10	202 A 10169 X	202 F 10169 X
20	202 A 10179 X	202 F 10179 X
40	202 A 10189 X	202 F 10189 X

ONE ROW – ANGLED		
No. of Pos.	gold plated	tin plated
5	202 A 10139 X	202 F 10139 X
10	202 A 10149 X	202 F 10149 X
20	202 A 10159 X	202 F 10159 X