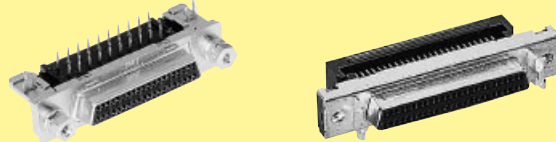


harmik[®] Miniature D connectors, 1.27 mm pitch

Page

I/O connectors **01.02**

Pin and socket



- Technical characteristics **01.03**
- Connectors with straight solder pins **01.04**
- Connectors with right angled solder pins **01.06**
- Connectors with IDC flat cable termination **01.08**
- Connectors with IDC discrete wire termination **01.09**

Bellows



- Technical characteristics **01.10**
- Connectors with straight solder pins **01.11**
- Connectors with right angled solder pins **01.13**
- Connectors with IDC discrete wire termination **01.14**

Hoods

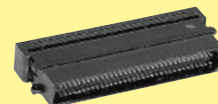


- Technical characteristics **01.15**
- Hoods for pin and socket male connectors **01.16**
- Hoods for bellows male connectors **01.18**

Accessories **01.20**

Intra cabinet connectors **01.21**

Pin and socket



- Technical characteristics **01.22**
- Connectors with straight solder pins **01.23**
- Connectors with IDC flat cable termination **01.24**

Cables and cable assemblies



see chapter 40 **01**
01

for economical and reliable connections

harmik

A comprehensive range of high density interface connectors based on two mating design concepts:

- Blade and fork contact in the Pin/Socket range.
- Leaf contact in the Bellows range.

Available in a various number of contacts with options for secure locking of mated connectors in accordance with the following international standards:

- Small Computer System Interface
SCSI-2
SCSI-2 wide
SCSI-3
- Intelligent Peripheral Interface
IPI
- High Performance Peripheral Interface
HIPPI
- High Speed Serial Interface
HSSI
- Media Independent Interface
MII
- Bi-directional Parallel Interface
IEEE – 1284-C
- EIA – TIA
232-E
- IEC
61076-3-100
for bellows connectors
- IEC
61076-3-101
for pin and socket connectors

UL recognised

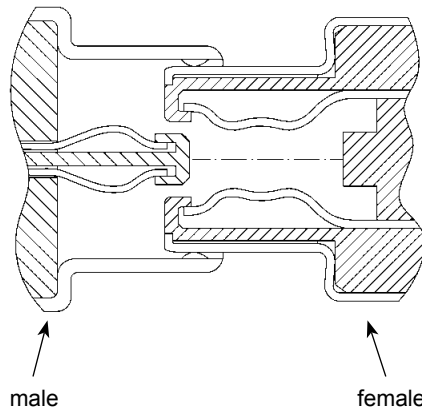
For customer specific applications we can design and manufacture solutions to match your requirement.

Sales department
HARTING components

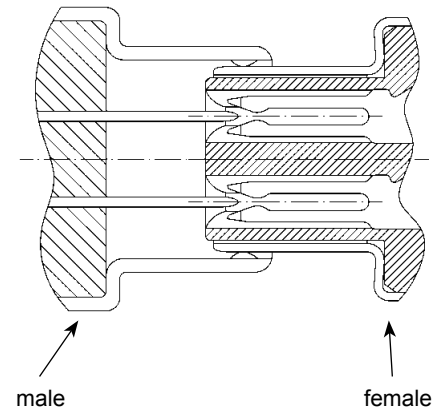


Certified according to EN ISO 9001 in design/development, production, installation and servicing

Bellows
with leaf contact design

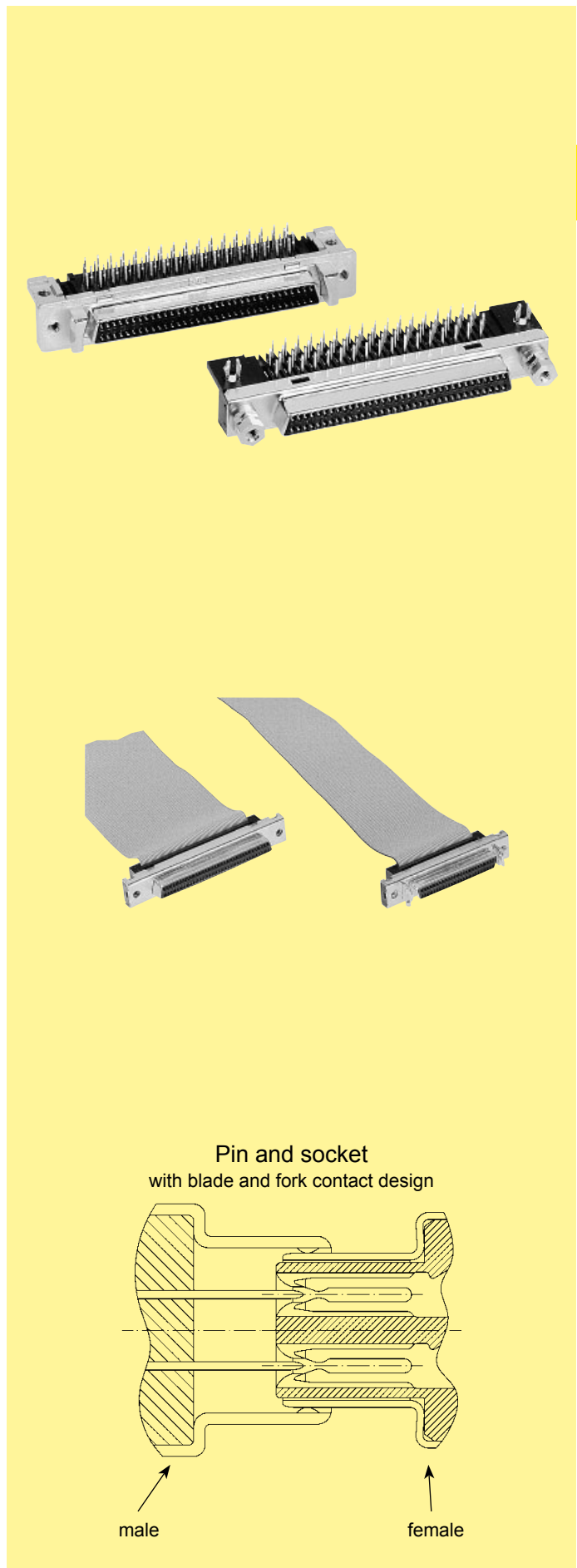


Pin and socket
with blade and fork contact design



I/O connectors

Number of contacts	20, 26, 50, 68, 100
Pitch	1.27 mm
Working current	1 A
Working voltage	240 V ~
Test voltage $U_{r.m.s.}$	750 V
Contact resistance	$\leq 30 \text{ m}\Omega$
Insulation resistance	$\geq 10^3 \text{ M}\Omega$
Temperature range	-55 °C ... + 105 °C
Terminations	
Solder pins	Straight for pcb holes min. $\varnothing 0.74 \text{ mm}$ Angled 90° for pcb holes min. $\varnothing 0.74 \text{ mm}$
Insulation displacement	Discrete wire AWG 28 to AWG 30 max. section: 0.089 mm^2 min. section: 0.050 mm^2 Insulation \varnothing min. 0.50 mm \varnothing max. 0.90 mm Flat cable AWG 30 pitch 0.635 mm
Materials	
Moulding	Thermoplastic resin glass-fibre filled UL 94-V0
Contacts	Copper alloy
Contact surface	
Contact zone	S4 = $0.76 \mu\text{m}$ (30 μinch) Au or PdNi equivalent
Metal shell	Die cast zamac or stamped steel, nickel-plated



har-mik

Number of contacts

20–68

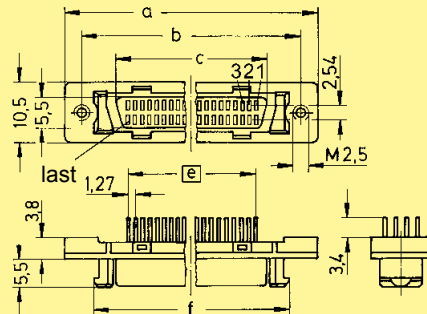


Female connectors, straight

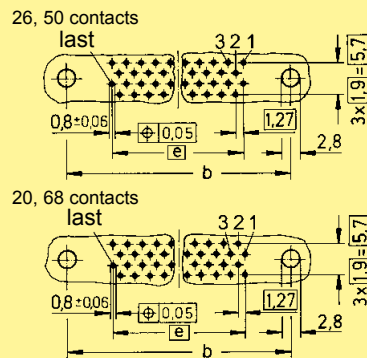
Identification	No. of contacts	Part No.
Female connectors with straight solder pins	20	60 01 020 5102
	26	60 01 026 5102
	50	60 01 050 5102
	68	60 01 068 5102

Dimensions

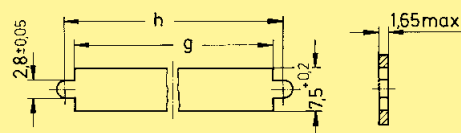
	a	b _{±0.1}	c	e	f	g	h
20	33.40	27.43	15.60	9 x 1.27 = 11.43	23.24	23.70	27.45
26	37.21	31.24	19.41	12 x 1.27 = 15.24	27.05	27.50	31.25
50	52.45	46.48	34.65	24 x 1.27 = 30.48	42.29	42.80	46.50
68	63.88	57.91	46.08	33 x 1.27 = 41.91	53.72	54.20	57.90



Board drillings



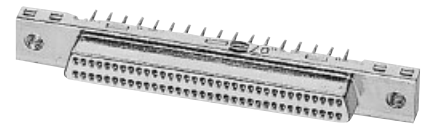
Panel cut out



Dimensions in mm

Number of contacts

68

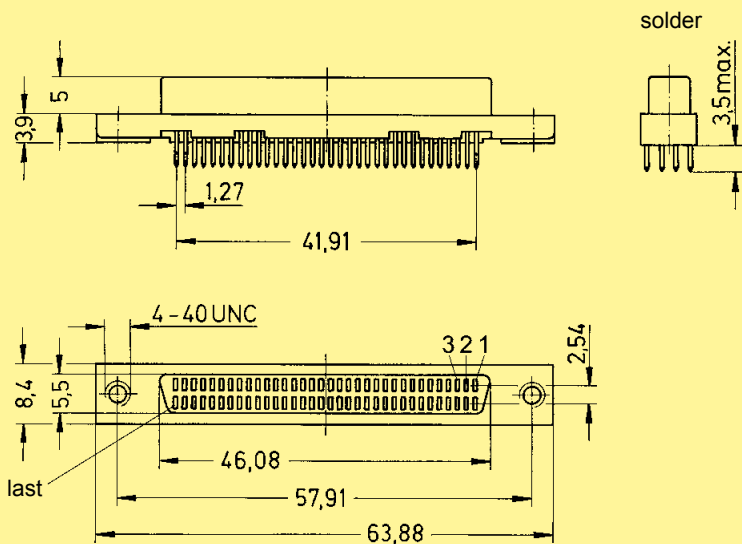


Female connectors, straight

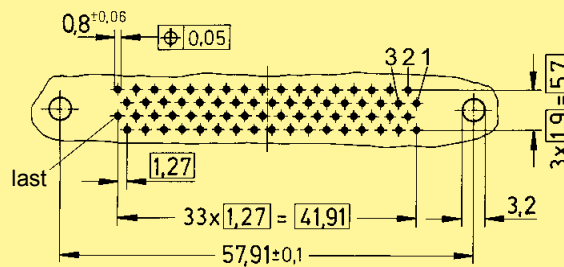
har-mik

Identification	No. of contacts	Part No.
Female connector with straight solder pins	68	60 02 068 5120

Dimensions



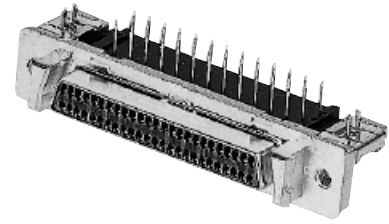
Board drillings
(Components side)



Dimensions in mm

Number of contacts

20–68



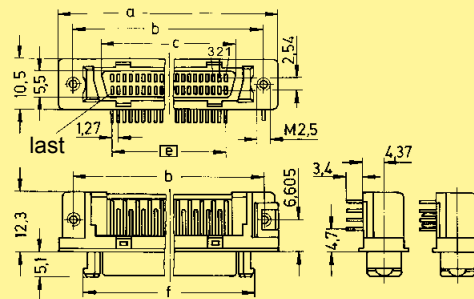
Female connectors, angled

Identification	No. of contacts	Part No.
Female connectors with angled solder pins	20	60 01 020 51 ...
	26	60 01 026 51 ...
	50	60 01 050 51 ...
	68	60 01 068 51 ...

Panel fixing	Board fixing	
M 2.5	M 2.5	32
M 2.5	Board lock	40

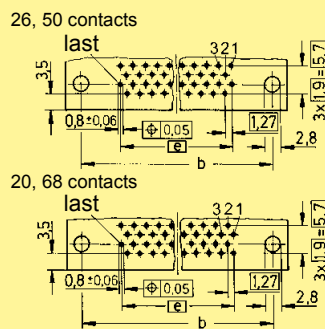
Dimensions

	a	b _{±0.1}	c	e	f	g	h
20	33.40	27.40	15.60	9 x 1.27 = 11.43	23.24	23.70	27.45
26	37.21	31.24	19.41	12 x 1.27 = 15.24	27.05	27.50	31.25
50	52.45	46.45	34.65	24 x 1.27 = 30.48	42.29	42.80	46.50
68	63.88	57.88	46.08	33 x 1.27 = 41.91	53.72	54.20	57.90

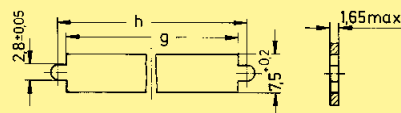


without board lock with board lock

Board drillings



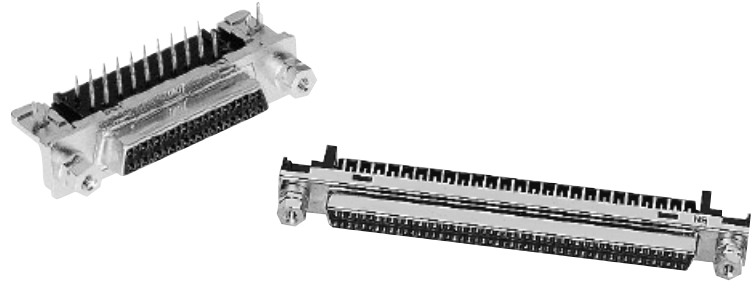
Panel cut out



Dimensions in mm

Number of contacts

68-100

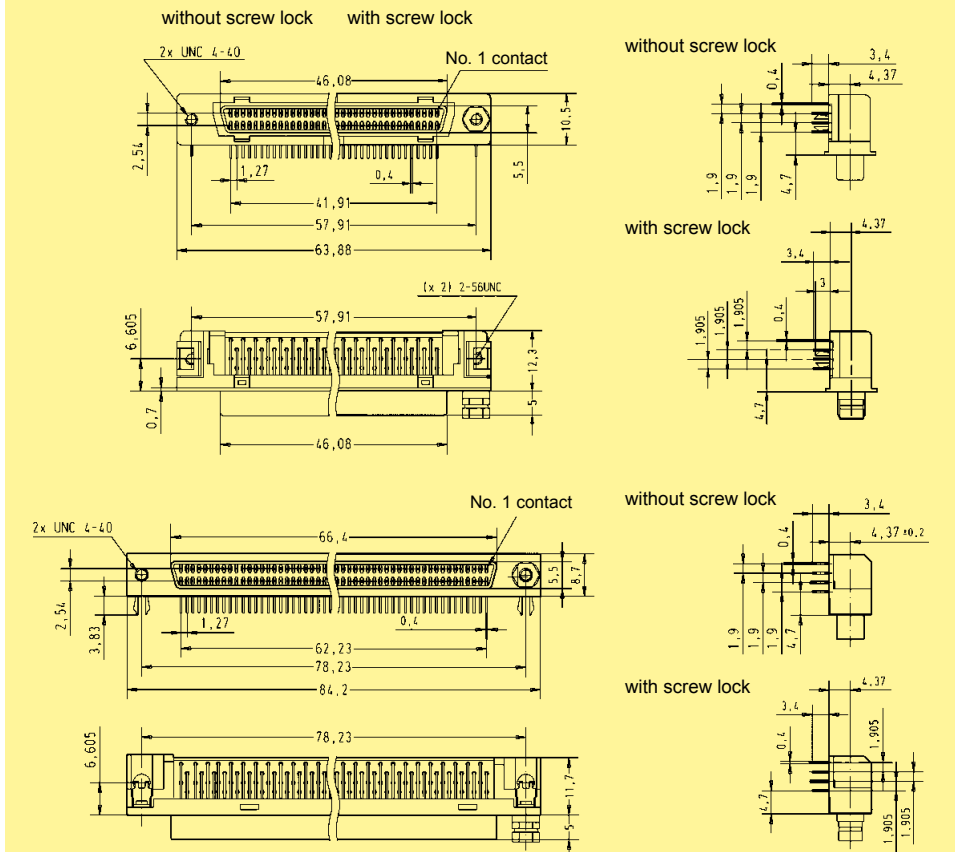


Female connectors, angled

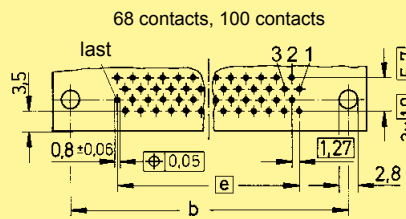
har-mik

Identification	No. of contacts	Part No.
Female connectors with angled solder pins	68	60 02 068 51 . . .
	100	60 02 100 51 . . .
With female screw lock	41	
Without female screw lock	50	

Dimensions

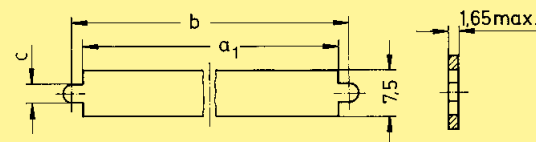


Board drillings (Components side)



	a ₁	b	c	e
68	54.22	57.91	4.4	33 x 1.27 = 41.91
100	74.53	78.23	2.8	49 x 1.27 = 62.23

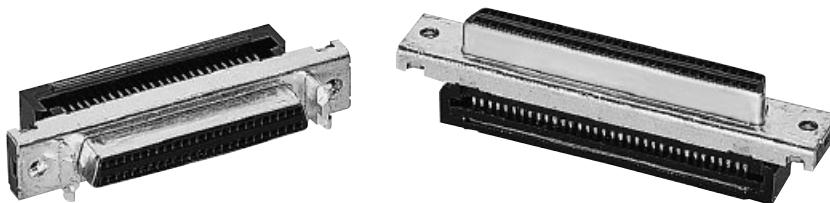
Panel cut out



Dimensions in mm

Number of contacts

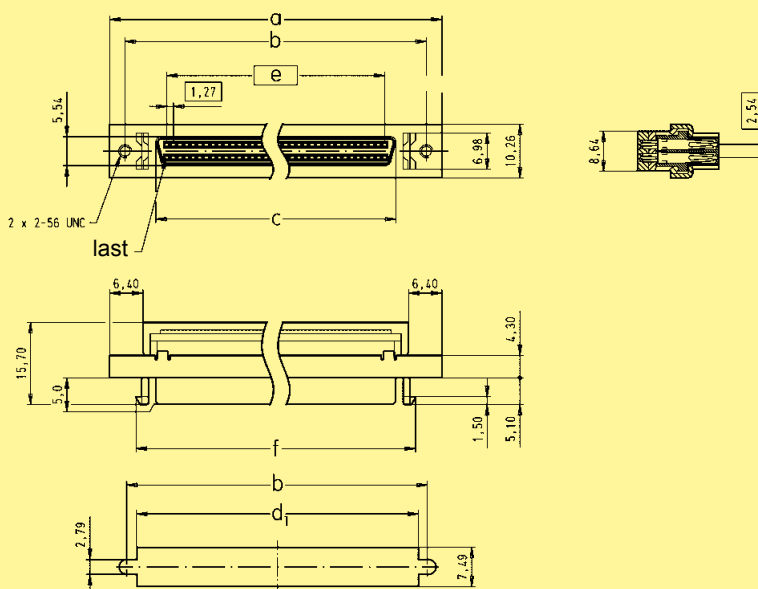
50-68



Female connectors for IDC flat cable, straight

Identification	No. of contacts	Part No.	
		with latch system	with screw lock system
Female panel connectors with insulation displacement termination for IDC flat cable pitch 0.635 mm AWG 30	50	60 04 050 5343	60 04 050 5344
	68	60 04 068 5343	60 04 068 5344

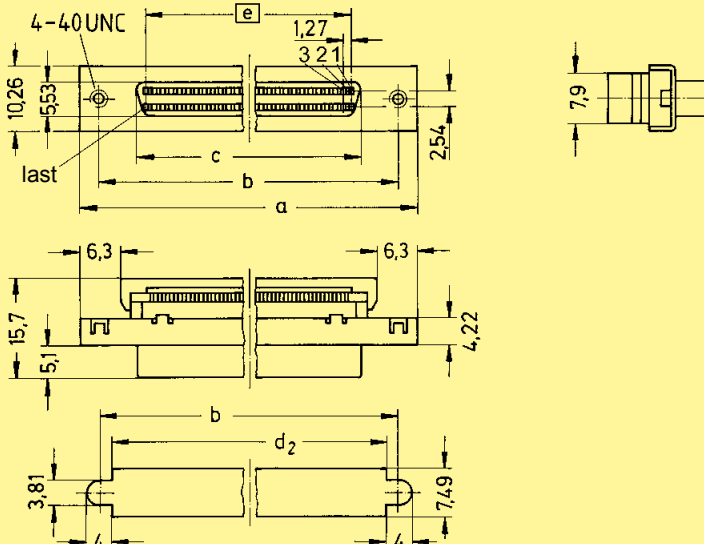
Dimensions for connectors with latch system



Panel cut out

	a	b	c	d ₁	d ₂	e	f
50	52.45	46.48	34.70	42.80	42.30	30.48	42.30
68	63.88	57.91	46.13	54.23	53.72	41.91	53.72

Dimensions for connectors with screw lock system

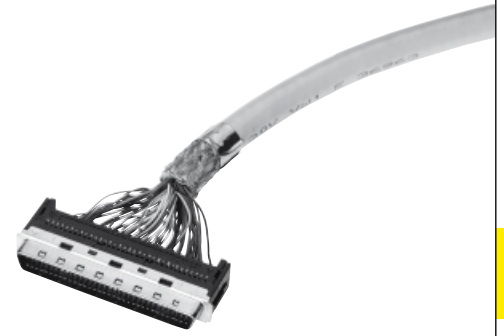


Panel cut out

Dimensions in mm

Number of contacts

20–100



Male connectors for IDC discrete wire, straight

Identification No. of contacts Part No.

Male connectors with insulation displacement termination

for discrete wire
AWG 28/30

Insulation diameter (mm)

Ø = 0.50–0.65	00
Ø = 0.50–0.75	05
Ø = 0.65–0.80	10
Ø = 0.75–0.90	15
Ø = 0.80–0.88	20

20	60 03 020 52 . . .
26	60 03 026 52 . . .
50	60 03 050 52 . . .
68	60 03 068 52 . . .
100	60 03 100 52 . . .

A manual for the *har-mik*[®] connector and cable assembly is available in our online catalogue *HARKIS*[®] or on demand at your local HARTING representative.



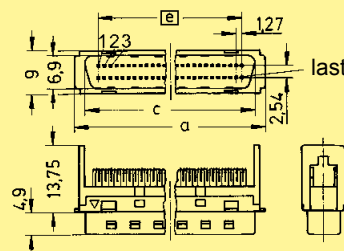
Available sizes

	Part No.	Ø	20	26	50	68	100
Male	60 03 . . . 5200	0.50–0.65	●	●	●		
	60 03 . . . 5205	0.50–0.75				●	
	60 03 . . . 5210	0.65–0.80	●		●		●
	60 03 . . . 5215	0.75–0.90				●	
	60 03 . . . 5220	0.80–0.88	●	●	●		

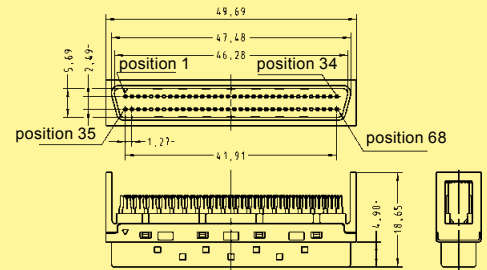
● = Available sizes

Dimensions

20 / 26 / 50 / 100 contacts



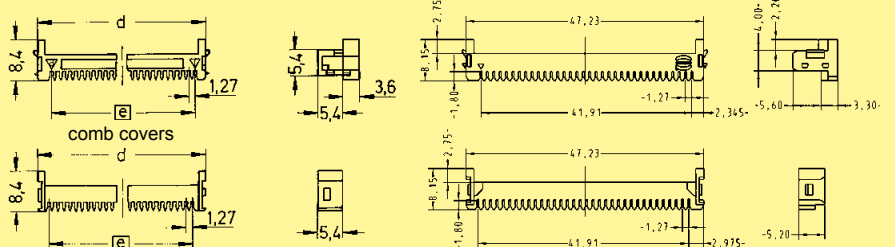
68 contacts



	a	c	d	e
20	21.25	17.00	16.75	11.43
26	25.06	20.81	20.56	15.24
50	40.30	36.05	35.80	30.48
100	72.05	67.80	67.55	62.23

Comb cover

(delivered with connectors)



Dimensions in mm

Number of contacts 14, 20, 26, 36, 50, 68

Pitch 1.27 mm

Working current 1 A

Working voltage 240 V ~

Test voltage $U_{r.m.s.}$ 750 V (standard)
500 V (light weight)

Contact resistance $\leq 40 \text{ m}\Omega$ (standard)
 $\leq 45 \text{ m}\Omega$ (light weight)

Insulation resistance $\geq 10^3 \text{ M}\Omega$

Temperature range during SMC reflow soldering -55 °C ... +105 °C
max. 240 °C for 60 s

Terminations

Solder pins Straight for pcb holes
min. $\varnothing 0.74 \text{ mm}$
Angled 90° for pcb holes
min. $\varnothing 0.74 \text{ mm}$ (wave soldering)
min. $\varnothing 0.62 \text{ mm}$ (light weight)

Insulation displacement AWG 28 to AWG 30
max. section: 0.089 mm^2
min. section: 0.050 mm^2
Insulation \varnothing min. 0.50 mm
 \varnothing max. 0.90 mm

Materials

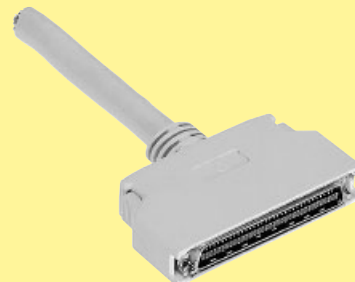
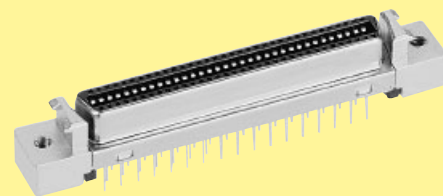
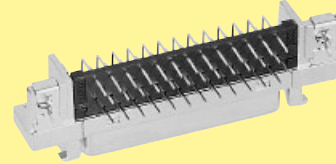
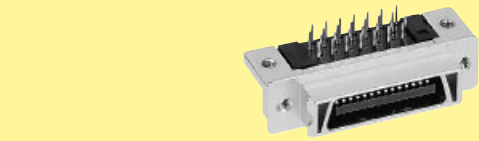
Moulding Thermoplastic resin
glass-fibre filled UL 94-V0

Contacts Copper alloy

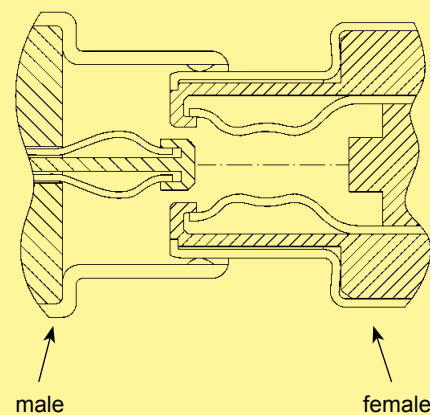
Contact surface

Contact zone $S_4 = 0.76 \text{ }\mu\text{m}$ (30 μinch) Au
or PdNi equivalent

Metal shell Die cast zamac or stamped
steel, nickel-plated

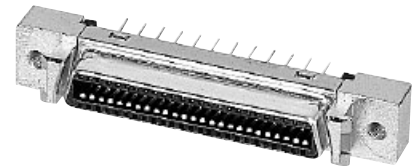


Bellows
with leaf contact design



Number of contacts

26–68



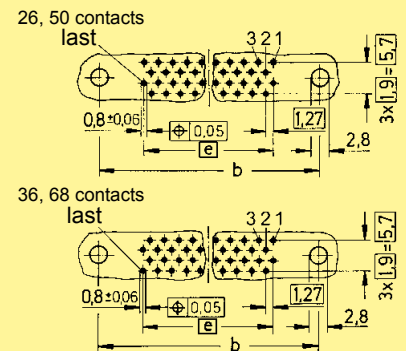
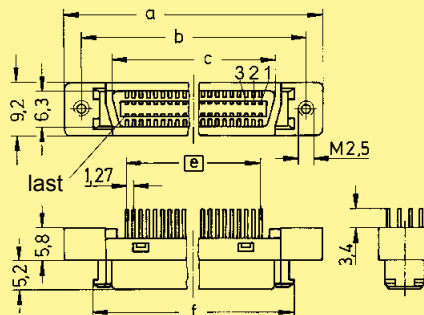
Female connectors, straight

harmik

Identification	No. of contacts	Part No.
Female connectors with straight solder pins	26	60 11 026 5102
	36	60 11 036 5102
	50	60 11 050 5102
	68	60 11 068 5102

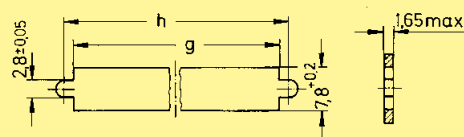
Dimensions

Board drillings

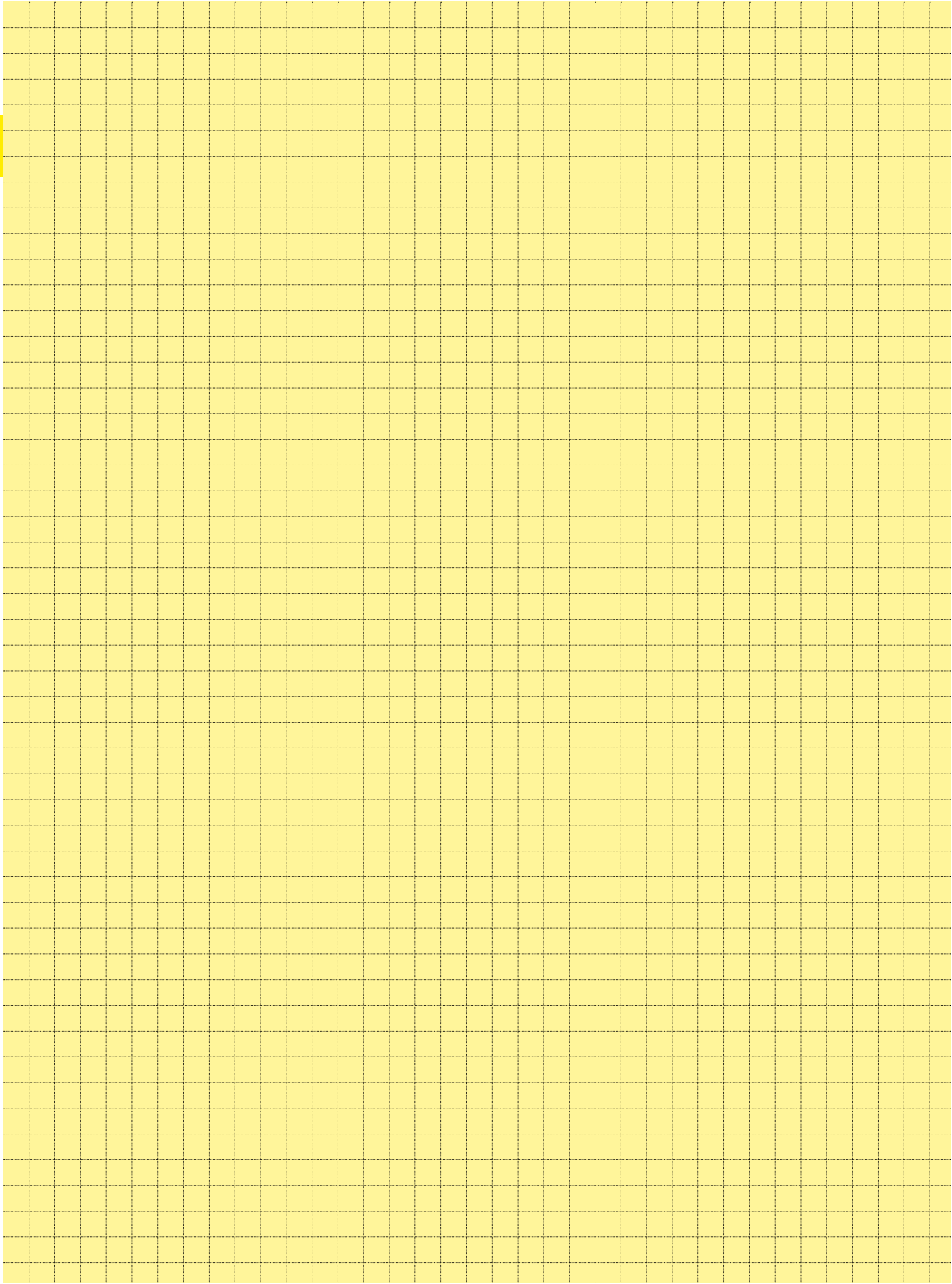


	a	b ± 0.1	c	e	f	g	h
26	37.16	31.26	20.26	12 x 1.27 = 15.24	27.11	27.50	31.25
36	43.51	37.61	26.61	17 x 1.27 = 21.59	33.46	33.90	37.60
50	52.40	46.50	35.50	24 x 1.27 = 30.48	42.35	42.80	46.50
68	63.83	57.93	46.93	33 x 1.27 = 41.91	53.78	54.20	57.90

Panel cut out

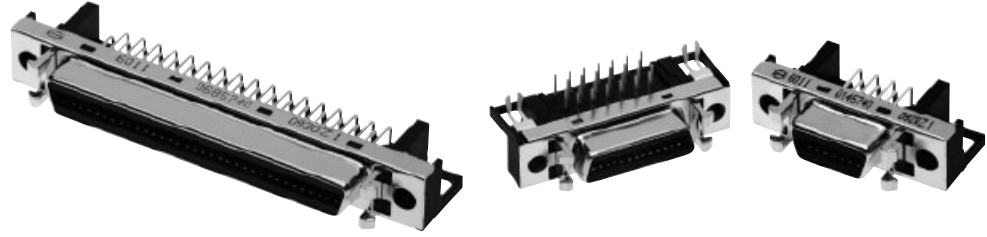


Dimensions in mm



Number of contacts

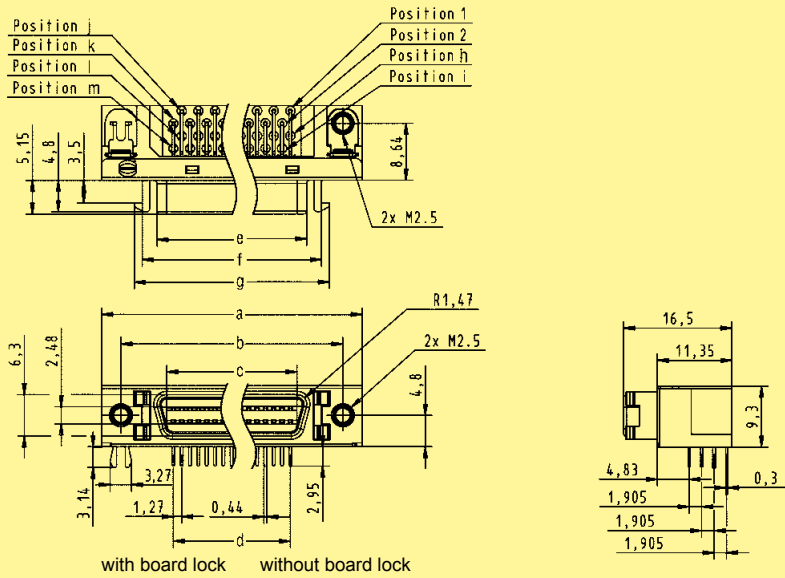
14-68



Light weight female connectors, angled

Identification	No. of contacts	for one reel (300 pieces)		Part No.	standard tray packaging
Light weight female connectors with angled solder pins, for pick and place assembly	14	60 11 014 57	.. 710	60 11 014 57	..
	20	60 11 020 57	.. 710	60 11 020 57	..
	26	60 11 026 57	.. 710	60 11 026 57	..
	36	60 11 036 57	.. 710	60 11 036 57	..
	50	60 11 050 57	.. 710	60 11 050 57	..
	68	60 11 068 57	.. 710	60 11 068 57	..
Without board lock	32				
With board lock	40				

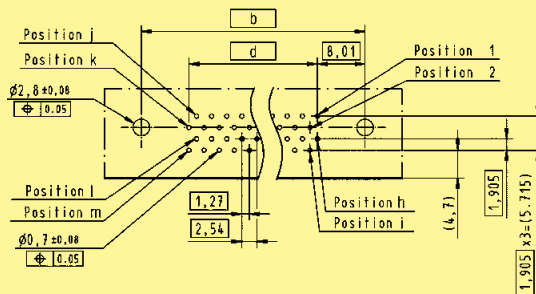
Dimensions



	a	b	c	d	e	f	g	h	i	j	k	l	m	n
14	29.54	23.64	9.62	7.62	12.62	17.14	19.54	8	9	7	6	14	13	44.0
20	33.35	27.45	13.43	11.43	16.43	20.95	23.35	11	12	9	10	19	20	56.5
26	37.16	31.26	17.24	15.24	20.24	24.76	27.16	14	15	13	12	26	25	56.0
36	43.51	37.61	23.59	21.59	26.59	31.11	33.51	19	20	17	18	35	36	56.0
50	52.40	46.50	32.48	30.48	35.48	40.00	42.40	26	27	25	24	50	49	72.5
68	63.83	57.93	43.91	41.91	46.91	51.43	53.83	35	36	33	34	67	68	88.5

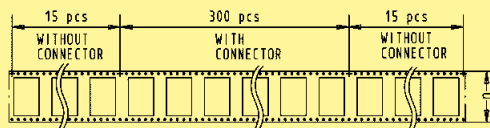
Board drillings

(Components side)



Packaging

(1 reel = 300 pieces)
Reel diameter = 380 mm



Dimensions in mm

Number of contacts

14-68



Male connectors for IDC discrete wire, straight

Identification	No. of contacts	Part No.
Male connectors with insulation displacement termination for discrete wire AWG 28/30 Insulation diameter (mm) Ø = 0.50-0.65 Ø = 0.50-0.75 Ø = 0.75-0.90		Male connector
	14	60 13 014 52 . . .
	20	60 13 020 52 . . .
	26	60 13 026 52 . . .
	36	60 13 036 52 . . .
	50	60 13 050 52 . . .
	68	60 13 068 52 . . .

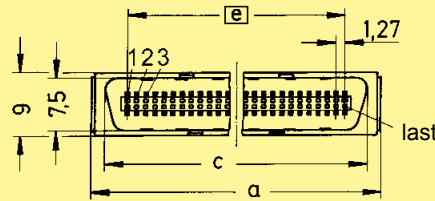
Available sizes

	Part No.	Ø	14	20	26	36	50	68
Male	60 13 . . . 5200	0.50-0.65		●			●	●
	60 13 . . . 5205	0.50-0.75	●		●	●		
	60 13 . . . 5215	0.75-0.90	●		●	●		

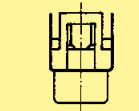
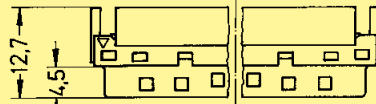
● = Available sizes

Dimensions for male connectors

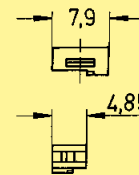
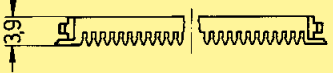
20 / 50 / 68 poles



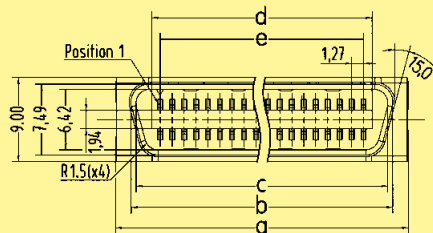
	a	c	e
20	21.24	17.55	11.43
50	40.29	36.60	30.48
68	51.72	48.03	41.91



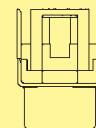
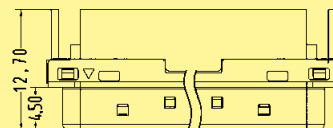
comb covers



14 / 26 / 36 poles



	a	b	c	d	e
14	17.10	13.84	12.78	9.42	7.62
26	24.95	21.46	20.40	17.00	15.24
36	31.35	27.81	26.75	23.39	21.59



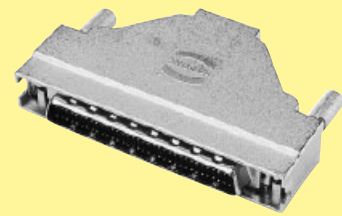
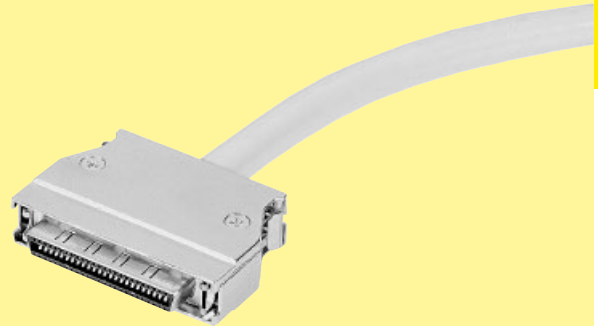
Dimensions in mm



A manual for the *har-mik*® connector and cable assembly is available in our online catalogue *HARKIS*® or on demand at your local HARTING representative.

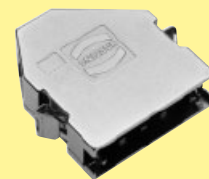
Hoods for pin and socket male connectors

Number of contacts	20, 26, 36, 50, 68, 100
Surface	Die cast zamac, nickel-plated
	Thermoplastic resin, nickel-plated, steel insert

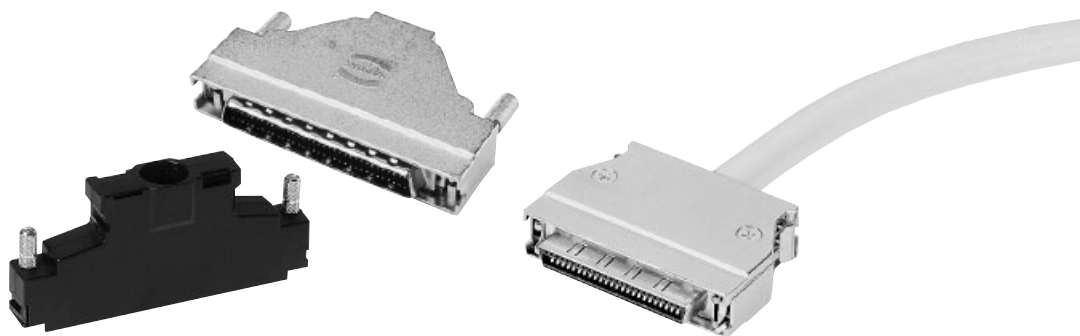


Hoods for bellows male connectors

Number of contacts	14, 20, 26, 36, 50, 68
Surface	Die cast zamac, nickel-plated
	Thermoplastic resin, nickel-plated, steel insert



Top entry hoods



Identification

No. of contacts

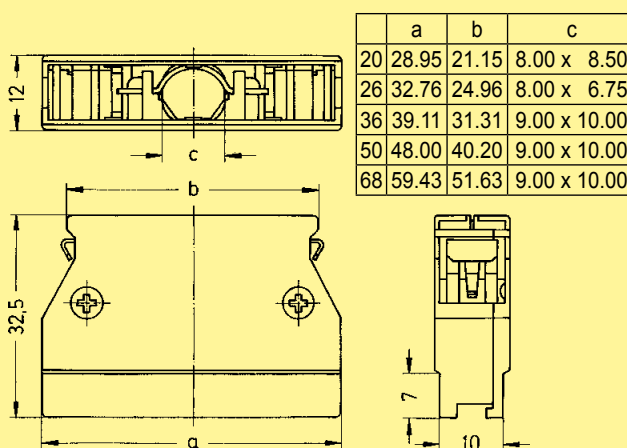
Part No.

Drawing

Dimensions in mm

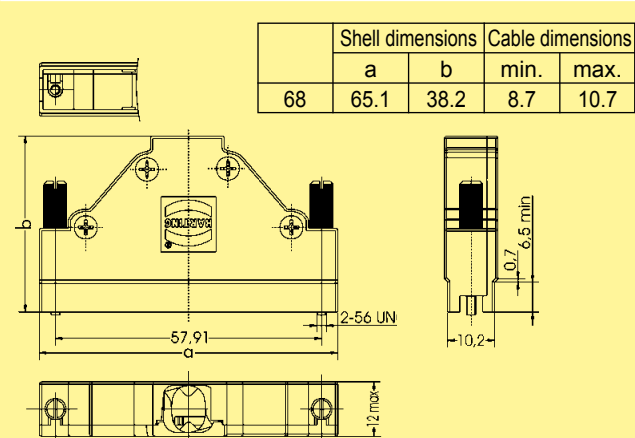
Metal hood
Large cable entry

20	60 03 020 0255
26	60 03 026 0255
36	60 03 036 0255
50	60 03 050 0255
68	60 03 068 0255



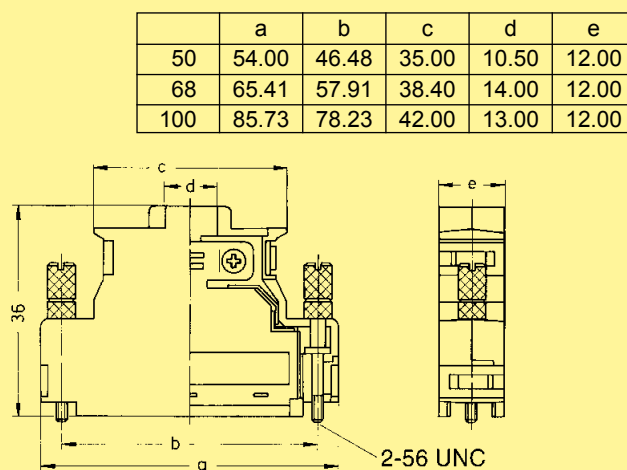
Metal hood
Top cable entry

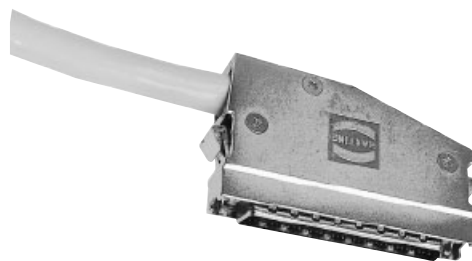
68	60 03 068 0145
----	----------------



Plastic hood
with internal screen¹⁾

50	60 03 050 0143
68	60 03 068 0143
100	60 03 100 0143





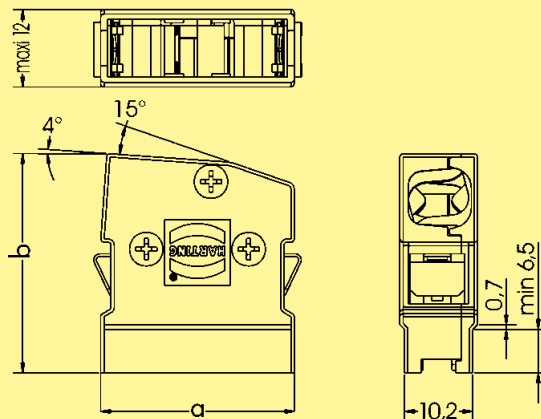
Side entry hoods

hartmik

Identification No. of contacts Part No. Drawing Dimensions in mm

Metal hood
Cable side entry

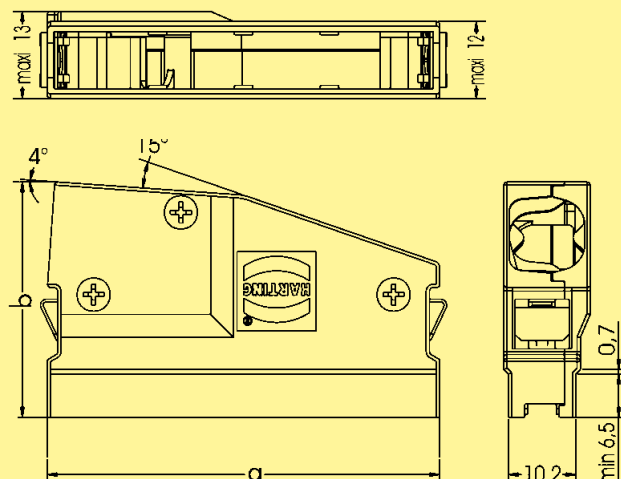
20 60 03 020 0555
26 60 03 026 0555
50 60 03 050 0555
68 60 03 068 0555



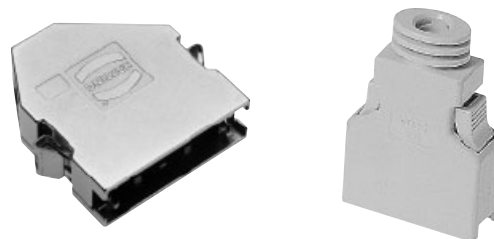
	Shell dimensions		Cable dimensions	
	a	b	min.	max.
20	29.0	32.9	6.2	8.0
26	32.8	32.9	6.5	8.5
50	48.0	35.6	8.3	10.3
68	59.4	35.6	8.7	10.7

Large cable side entry

68 60 03 068 0655



	Shell dimensions		Cable dimensions	
	a	b	min.	max.
68	59.4	35.6	10.0	12.0

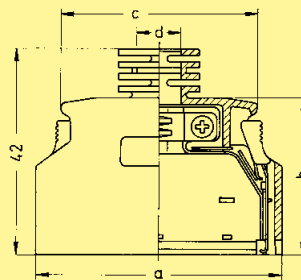


Top or side entry hoods

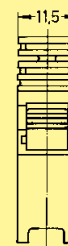
Identification No. of contacts Part No. Drawing Dimensions in mm

Plastic hood with internal screen

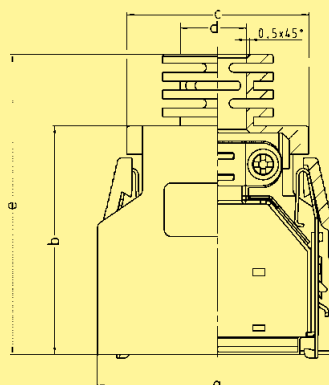
14	60 13 014 0153 351 ¹⁾
20	60 13 020 0153 ²⁾
26	60 13 026 0153 351 ¹⁾
36	60 13 036 0153 351 ¹⁾
50	60 13 050 0153 ²⁾
68	60 13 068 0153 ²⁾



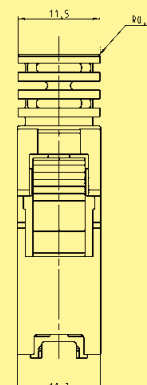
	a	b	c	d
20	29.65	34.50	19.95	6.80
50	48.70	32.00	39.00	8.70
68	60.13	32.00	50.43	9.10



20 / 50 / 68 poles



	a	b	c	d	e
14	26.00	36.00	21.00	7.20	42.50
26	33.70	32.00	25.50	8.00	42.00
36	40.05	32.00	31.80	9.20	42.00



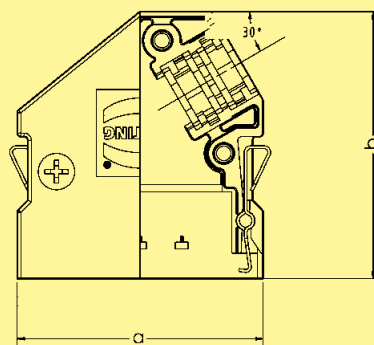
14 / 26 / 36 poles

Metal hood

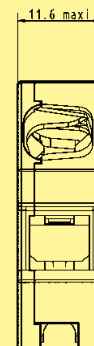
Cable side entry

Only compatible with IDC connector
60 13 026 5200

26	60 13 026 0555
----	----------------

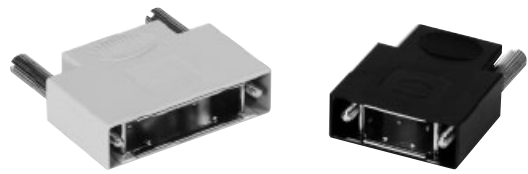


	Shell dimensions		Cable dimensions	
	a	b	min.	max.
26	33.8	36.8	6.5	8.5



11.6 maxi

¹⁾ Temperature range: - 55 °C ... + 85 °C
²⁾ Temperature range: - 55 °C ... + 60 °C



Top entry hoods

harmik

Identification No. of contacts Part No. Drawing Dimensions in mm

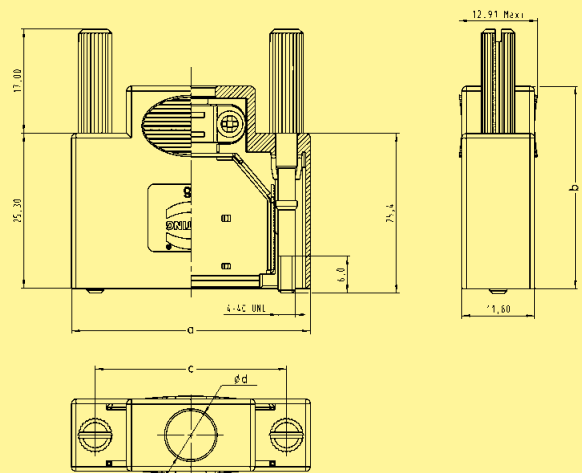
Plastic hood with internal screen and knurled screws

Colour: Beige

14 60 13 014 0146 351¹⁾
 26 60 13 026 0146 351¹⁾
 36 60 13 036 0146 351¹⁾

Colour: Black

14 60 13 014 0146 110¹⁾
 26 60 13 026 0146 110¹⁾
 36 60 13 036 0146 110¹⁾



	a	b	c	d
14	31.40	37.00	23.64	7.2
26	39.00	33.00	31.26	8.0
36	45.40	33.00	37.61	9.2

¹⁾ Temperature range: - 55 °C ... + 85 °C



harmik

Female screw lock

Identification	Part No.	Drawing	Dimensions in mm
<p>Screw lock Thread: M 2.5 / 4-40 UNC Height: 4.6 mm</p>	60 01 000 9030		
<p>Screw lock Thread: M 2.5 / 2-56 UNC Height: 2.9 mm</p>	60 01 000 9013		
<p>Screw lock Thread: 4-40 UNC / 4-40 UNC Height: 3.99 mm</p>	60 01 000 9018		
<p>Screw lock Thread: 4-40 UNC / 2-56 UNC Height: 3.99 mm</p>	60 01 000 9019		
<p>Screw lock Thread: 4-40 UNC / 2-56 UNC Height: 5.5 mm</p>	60 01 000 9020		
<p>Screw lock Thread: 4-40 UNC / 4-40 UNC Height: 5.5 mm</p>	60 01 000 9021		

for economical and reliable connections

A comprehensive range of high density intra cabinet connectors based on blade and fork contacts.

Available in a various number of contacts according to the following international standards and applications:

- Small Computer System Interface
SCSI-2
SCSI-2 wide
SCSI-3

- Internal Bus extension through "Daisy chain" inter-linking via 0.635 mm pitch flat cable.
The 4-point design of the IDC contact provides accurate and reliable termination even with teflon cable.

UL recognised

For customer specific applications we can design and manufacture solutions to match your requirement.

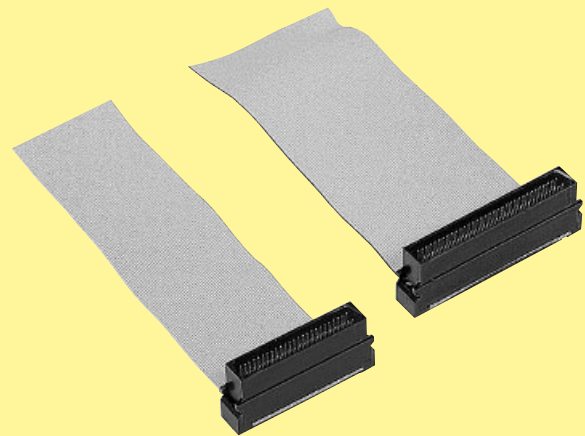
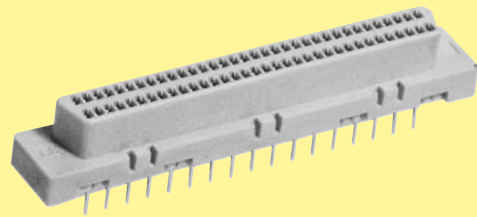
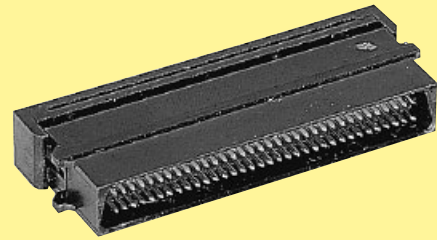
Sales department
HARTING components



Certified according to EN ISO 9001
in design/development, production,
installation and servicing

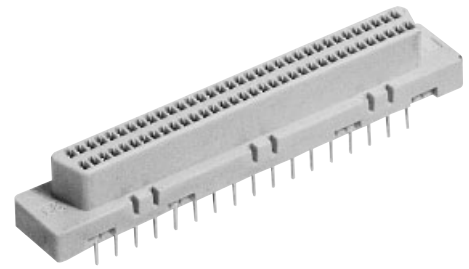
Intra cabinet connectors

Pitch	1.27 mm
Working current	
pcb connector	1 A
Flat cable connector	0.5 A
Working voltage	
pcb connector	240 V ~
Flat cable connector	100 V ~
Test voltage $U_{r.m.s.}$	
pcb connector	750 V
Flat cable connector	500 V
Contact resistance	$\leq 25 \text{ m}\Omega$
Insulation resistance	$\geq 10^3 \text{ M}\Omega$
Temperature range	-55 °C ... + 105 °C
Terminations	
Solder pins	Straight for pcb holes min. $\varnothing 0.74 \text{ mm}$
Insulation displacement	Flat cable AWG 30 pitch 0.635 mm
Materials	
Moulding	Thermoplastic resin glass-fibre filled UL 94-V0
Contacts pcb connector	Copper alloy
Flat cable connector	Nickel
Contact surface	
Contact zone	S4 = 0.76 μm (30 μinch) Au or PdNi equivalent



Number of contacts

68

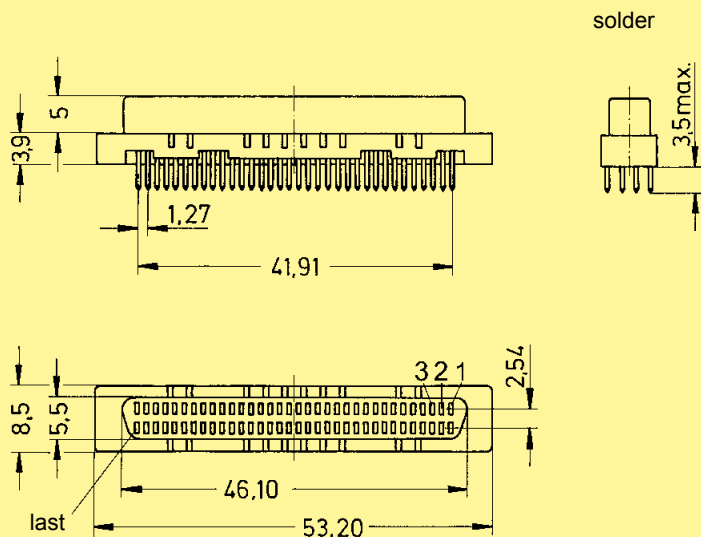


Female connectors, straight

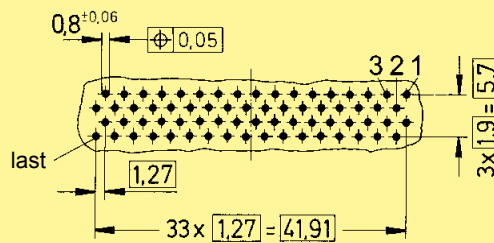
har-mik

Identification	No. of contacts	Part No.
Female connector with straight solder pins	68	60 05 068 5100

Dimensions

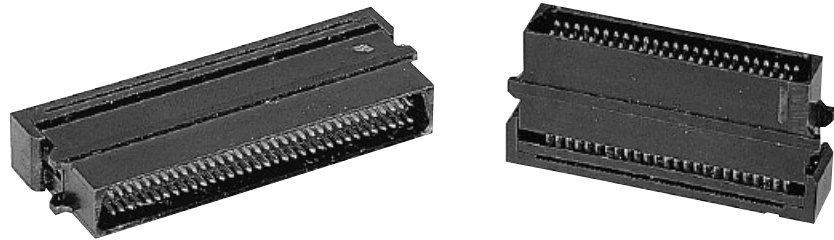


Board drillings
(Components side)



Number of contacts

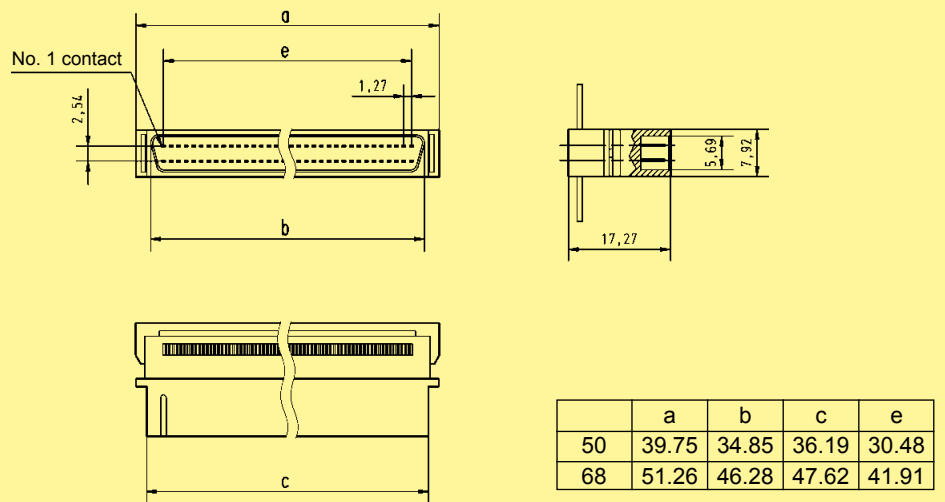
50–68



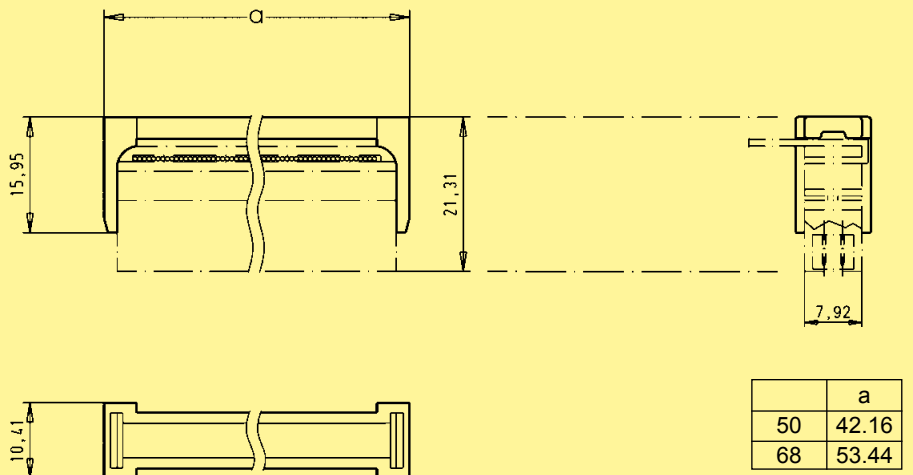
Male connectors for IDC flat cable, straight

Identification	No. of contacts	Part No.
Male connectors with insulation displacement termination for IDC flat cable pitch 0.635 mm AWG 30 Strain relief order separately		Male connector
	50	60 06 050 5440
	68	60 06 068 5440
		Strain relief
		60 06 050 9001
		60 06 068 9001

Dimensions



Strain relief



Dimensions in mm