

Cables and cable assemblies

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harlink®	40.02
harmik®	40.03
D-Sub and SEK	40.08

Cables for insulation displacement termination

Identification	No. of pairs	Standard version	Part No.
			<i>Halogen free version with screened pairs</i>
Twisted pair cable with braid shield AWG 28 AWG 30 Length per reel: 100 m*	5	60 90 005 6003	60 90 005 6009
	10	60 90 010 6003	
	13	60 90 013 6003	
	18	60 90 018 6003	
	25	60 90 025 6003	
	34	60 90 034 6003	
	50	60 90 050 6003	

Drawing	No. of pairs	Outside diameter		No. of pairs	Outside diameter
		Nominal	Max		
	5	5.4	5.6	5	5.5 ± 0.3
	10	6.2	6.5		
	13	6.5	6.8		
	18	7.4	7.7		
	25	8.2	8.5		
	34	8.7	9.0		
	50	13.0	13.5		

Technical characteristics	Standard version	<i>Halogen free version with screened pairs</i>
	Number of pairs	5, 10, 13, 18, 25, 34, 50
Voltage rating	30 V (style UL 2789)	100 V
Maximum conductor resistance (20 °C)	233 Ω/km	350 Ω/km
Minimum insulation resistance (20 °C)	1 MΩ/km	10 GΩ/km
Nominal differential impedance (TDR)	85 Ω	95 Ω ± 5 Ω
Nominal differential capacitance (1 kHz)	110 pF/m	45 pF/m
Propagation velocity	60 %	
Temperature range	-20 °C ... +105 °C	-25 °C ... +80 °C
Cable materials		
Conductor	7 x 0.13 mm stranded tinned copper	7 x 0.1 mm stranded tinned copper
Insulation (except 50 pairs) (for 50 pairs)	PVC Ø 0.62 mm PVC Ø 0.65 – 0.80 mm	Polypropylene Ø 0.74 mm
Shield	Tinned copper braid, covering ≥ 80 %	Tinned copper braid, covering ≥ 65 %
Jacket	PVC	FRNC
Flammability rating	IEC 332-1	
Sheath marking	AWM 2789 60°C 30V VW1 36963	AWM 21283 80°C 30V VW1

* Except 60 90 050 6003: 150 m reel
Thin print: Standard version
Italic print: Halogen free version



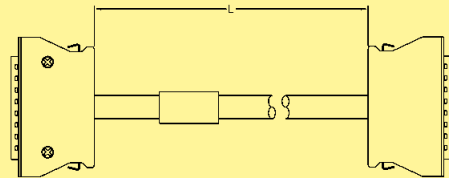
Cable assemblies

Identification	Part No.	Drawing	Dimensions in mm
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Cable assembly *har-mik*®
pin and socket, 68 pole

Hood: metal hood with top entry
Cable: 34 twisted pairs, AWG 28, shielded, PVC
Wiring: 1:1

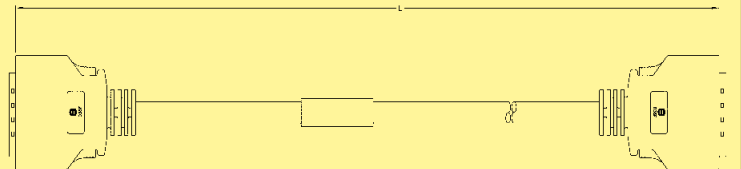
Length: L = 0.5 m	33 60 214 5000 102
L = 1.0 m	33 60 213 1000 103
L = 2.0 m	33 60 213 2000 104
L = 5.0 m	33 60 213 5000 105
L = 10.0 m	33 60 212 1000 106
L = 15.0 m	33 60 212 1500 107
L = 20.0 m	33 60 212 2000 108



Cable assembly *har-mik*®
bellows, 36 pole

Hood: shielded plastic hood with top entry
Cable: 18 twisted pairs, AWG 28, shielded, PVC
Wiring: 1:1

Length: L = 0.5 m	33 60 214 5000 088
L = 1.0 m	33 60 211 0010 089
L = 2.0 m	33 60 211 0020 090
L = 5.0 m	33 60 211 0050 091
L = 10.0 m	33 60 211 0100 092
L = 15.0 m	33 60 211 0150 093
L = 20.0 m	33 60 211 0200 094



Cables for insulation displacement termination

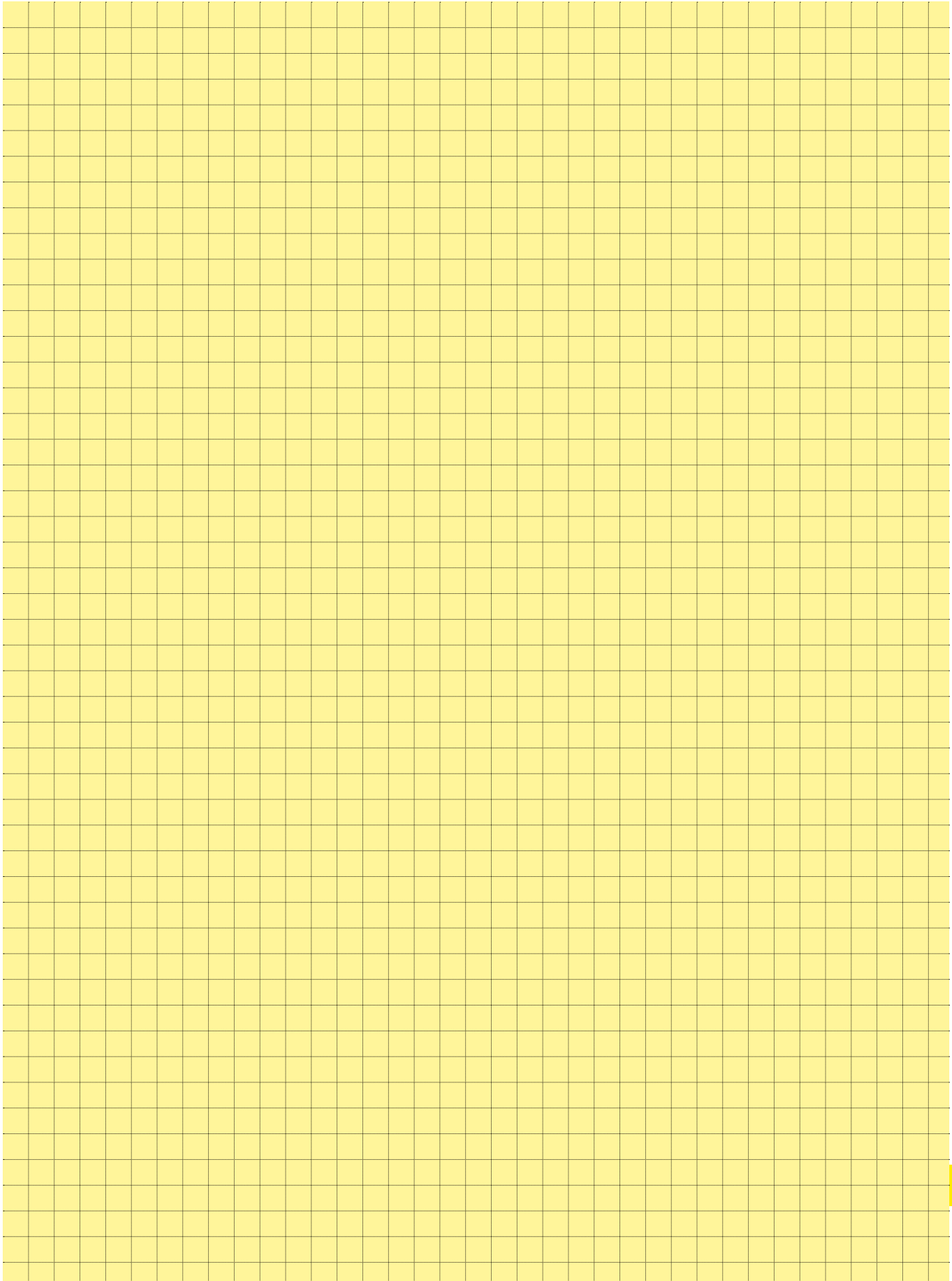
Identification	No. of wires	Part No.
Flat cable for IDC connector Pitch 0.635 mm AWG 30 Length per reel: 100 ft 30.48 m	50	60 90 050 6008
	68	60 90 068 6008

Drawing Dimensions in mm

	a ± 0.25	b ± 0.05	c ± 0.2	d ± 0.05
50	31.75	0.635	31.12	0.68
68	43.20	0.635	42.55	0.68

The tolerance b is not cumulative

Technical characteristics	
Number of wires	50, 68
Voltage rating	150 V
Current rating	1.5 A max. per conductor
Impedance	75 Ω
Nominal differential capacitance (1 kHz)	90 pF/m
Pitch	0.635 mm
UL style	2678
Cables Temperature range	- 30 °C ... + 105 °C
Materials	
Conductor	7 x 0.102 mm regular tinning or Z-bonding AWG 30
Insulation	PVC





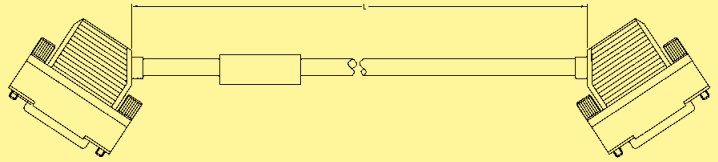
Cable assemblies

Identification	Part No.	Drawing	Dimensions in mm
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Cable assembly D-Sub HD 78 pole

Hood: shielded plastic hood with side entry, screw 4-40 UNC
 Cable: 39 twisted pairs, AWG 26, double shielded, PVC
 Wiring: 1:1

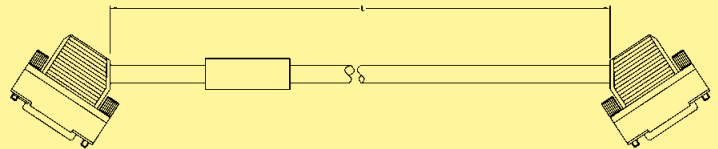
Length: L = 0.5 m	33 56 212 0050 028
L = 1.0 m	33 56 213 1000 002
L = 2.0 m	33 56 213 2000 016
L = 5.0 m	33 56 212 0500 029
L = 10.0 m	33 56 212 1000 030
L = 20.0 m	33 56 212 2000 031



Cable assembly D-Sub HD 44 pole

Hood: shielded plastic hood with side entry, screw 4-40 UNC
 Cable: 22 twisted pairs, AWG 26, double shielded, PVC
 Wiring: 1:1

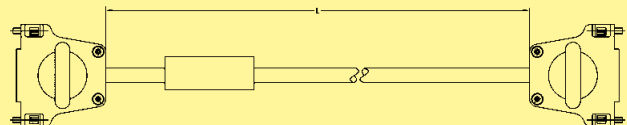
Length: L = 0.5 m	33 56 213 0500 023
L = 1.0 m	33 56 213 1000 024
L = 1.5 m	33 56 213 1500 022
L = 2.0 m	33 56 213 2000 025
L = 5.0 m	33 56 213 5000 026
L = 10.0 m	33 56 212 1000 027



Cable assembly D-Sub HD 44 pole

Hood: metal hood with top entry, screw 4-40 UNC
 Cable: 24 twisted pairs, AWG 26, double shielded, PVC
 Wiring: 1:1

Length: L = 0.5 m	33 56 212 0050 032
L = 1.0 m	33 56 212 0100 033
L = 5.0 m	33 56 212 0500 034
L = 10.0 m	33 56 212 1000 035
L = 20.0 m	33 56 212 2000 036



Cables for insulation displacement termination

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm			
Flat cable grey UL AWM-style 2651 CSA	6	09 18 006 700		Conductor material _____ Copper tinned Gauge _____ AWG 28/7 0.089 mm ² Voltage rating _____ 300 V _{r.m.s.} Current rating at 25 °C _____ 2.1 A max. Capacity unbalanced _____ 45.9 pF/m Impedance unbalanced _____ 105 Ω Propagation delay _____ 4.9 ns/m nominal Insulation material _____ PVC Temperature rating (operating) _____ -20 °C ... + 105 °C Temperature rating (static) _____ -30 °C ... + 105 °C Flammability rating _____ UL: VW-1 Insulation resistance _____ > 100 MΩ/km			
	9	09 18 009 700					
	10	09 18 010 700					
	14	09 18 014 700					
	15	09 18 015 700					
	16	09 18 016 700					
	18	09 18 018 700					
	20	09 18 020 700					
	24	09 18 024 700					
	25	09 18 025 700					
	26	09 18 026 700					
	28	09 18 028 700					
	30	09 18 030 700					
	34	09 18 034 700					
	37	09 18 037 700					
	40	09 18 040 700					
	50	09 18 050 700					
	60	09 18 060 700					
	64	09 18 064 700					
	Length per reel						
30.48 m (100 feet)	1						
100 m (328 feet)	4						
Flat cable grey non-halogenated	6	09 18 006 700		Conductor material _____ Copper tinned Gauge _____ AWG 28/7 0.089 mm ² Voltage rating _____ 300 V _{r.m.s.} Current rating _____ 1.3 A Capacity unbalanced _____ 42.7 pF/m at 1 MHz Impedance unbalanced _____ 100 Ω Inductance _____ 0.56 mH/m Propagation delay _____ 4.8 ns/m Insulation material _____ Non-halogenated flame retardent Polyolefin Temperature rating _____ -40 °C ... + 90 °C Insulation resistance _____ 10000 MΩ/km			
	9	09 18 009 700					
	10	09 18 010 700					
	14	09 18 014 700					
	15	09 18 015 700					
	16	09 18 016 700					
	18	09 18 018 700					
	20	09 18 020 700					
	24	09 18 024 700					
	25	09 18 025 700					
	26	09 18 026 700					
	28	09 18 028 700					
	34	09 18 034 700					
	37	09 18 037 700					
	40	09 18 040 700					
	50	09 18 050 700					
	60	09 18 060 700					
	64	09 18 064 700					
	Length per reel						
	30.48 m (100 feet)	1					
100 m (328 feet)	4						

Important: always store reel vertically

Cables for insulation displacement termination

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm
Flat cable colour coded Length per reel 30.48 m (100 feet) UL AWM-style 2651	6 9 10 14 15 16 18 20 24 25 26 28 30 34 37 40 50 60 64	09 18 006 7005 09 18 009 7005 09 18 010 7005 09 18 014 7005 09 18 015 7005 09 18 016 7005 09 18 018 7005 09 18 020 7005 09 18 024 7005 09 18 025 7005 09 18 026 7005 09 18 028 7005 09 18 030 7005 09 18 034 7005 09 18 037 7005 09 18 040 7005 09 18 050 7005 09 18 060 7005 09 18 064 7005	<p>AWG 28/7 colour coded $1,27 \pm 0,05$ 0,5 $(n-1) \times 1,27$ 1,00</p>	Colour code sequence (in 10 steps) brown, red, orange, yellow, green, blue, violet, grey, white, black Conductor material _____ Copper tinned Gauge _____ AWG 28/7 0.09 mm ² Voltage rating _____ 300 V _{r.m.s.} Current rating at 25 °C _____ 2.1 A max. Conductor resistance _____ 221 mΩ/m Capacity unbalanced _____ 42.7 pF/m Impedance unbalanced _____ 105 Ω Inductance unbalanced _____ 0.68 μH/m Signal delay _____ 4.9 ns/m Insulation material _____ PVC Temperature rating (operating) _____ -20 °C ... + 105 °C Temperature rating (static) _____ -30 °C ... + 105 °C Flammability rating _____ UL: VW 1 Insulation resistance _____ 100 MΩ/km
Flat cable twisted pair Length per reel 30.48 m (100 feet) UL AWM-style 20 130	10 14 16 20 26 34 40 50 60 64	09 18 010 7006 09 18 014 7006 09 18 016 7006 09 18 020 7006 09 18 026 7006 09 18 034 7006 09 18 040 7006 09 18 050 7006 09 18 060 7006 09 18 064 7006	<p>colour coded AWG 28/7 $1,27 \pm 0,13$ 1,02 ± 0,13 $(n-1) \times 1,27$ 1,07</p> <p>457,2 50,8 508</p>	 Conductor material _____ Copper tinned Gauge _____ AWG 28/7 0.089 mm ² Voltage rating _____ 300 V _{r.m.s.} Conductor resistance _____ 221 mΩ/m Capacity unbalanced _____ 49 pF/m Impedance unbalanced _____ 105 Ω Signal delay _____ 5.2 ns/m Insulation material _____ PVC Temperature rating _____ -20 °C ... + 105 °C Flammability rating _____ UL: VW 1 Insulation resistance _____ 10 ⁴ MΩ/km

Cables for insulation displacement termination

Identification	No. of contacts	Part No.	Drawing	Dimensions in mm	
Round flat cable					
ø max.					
with screening (shielding)	9	09 18 009 70		6.86	
	10	09 18 010 70		6.86	
	14	09 18 014 70		7.37	
	15	09 18 015 70		7.62	
	UL listed PLCC CL2 CSA certified AWM FT-1	16	09 18 016 70		7.87
		20	09 18 020 70		8.38
		25	09 18 025 70		9.14
		26	09 18 026 70		9.14
		34	09 18 034 70		10.16
		37	09 18 037 70		10.41
		40	09 18 040 70		10.92
		50	09 18 050 70		12.19
	Length per reel	60	09 18 060 70		13.21
		64	09 18 064 70		13.46
30.48 m (100 feet)	07				
100 m (328 feet)	10*				
without screening (shielding)	9	09 18 009 70		6.35	
	10	09 18 010 70		6.35	
	14	09 18 014 70		6.60	
	15	09 18 015 70		6.86	
	UL listed PLCC CL2 CSA certified AWM FT-1	16	09 18 016 70		7.11
		20	09 18 020 70		7.62
		25	09 18 025 70		8.38
		26	09 18 026 70		8.38
		34	09 18 034 70		9.40
		37	09 18 037 70		9.65
		40	09 18 040 70		10.16
		50	09 18 050 70		11.43
	Length per reel	60	09 18 060 70		12.45
		64	09 18 064 70		12.70
30.48 m (100 feet)	08				
100 m (328 feet)	11*				

Slit section

① Flat cable, AWG 28/7
② Aluminium / Polyester tape (spiral wrap)
③ 85 % minimum coverage tinned copper braid
④ Outer jacket: black PVC

Edge mark on first conductor

1.27 ±0.08 AWG 28/7 grey
0.54 ±0.18
0.09 ±0.08

Slit section

① Flat cable, AWG 28/7
② Clear polyester
③ Outer jacket: black PVC

No. of contacts	a	b	c
9 to 26	19.05	19.05	38.10
34 to 64	38.10	19.05	57.15

Conductor material _____ Copper tinned

Gauge _____ AWG 28/7 0.089 mm²

Voltage rating _____ 300 V_{r.m.s.}

Conductor resistance _____ 225 mΩ/m

Capacity unbalanced _____ 78.7 pF/m

Impedance unbalanced _____ 75 Ω

Signal delay _____ 5.25 ns/m nom.

Insulation material _____ PVC

Temperature rating _____ -20 °C ... + 105 °C

Flammability rating _____ UL: VW 1

Insulation resistance _____ 10⁴ MΩ/km

* Not normally kept in stock
Important: always store reels vertically

