1394 cables for moving applications

RoHS Compliance

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ALLIED Vision Technologies

1394 drag chain cables for moving applications

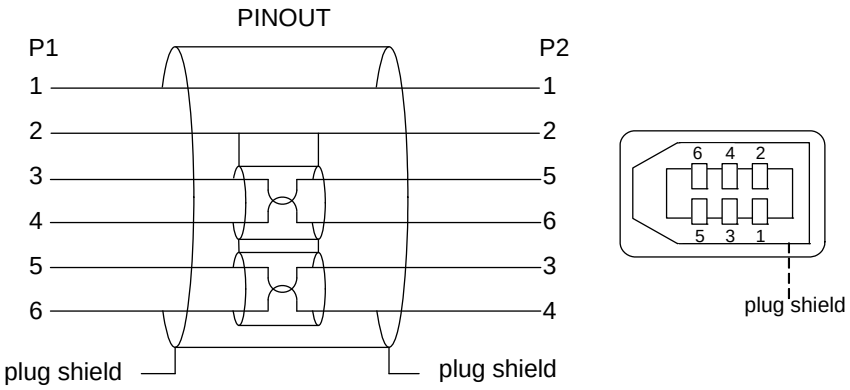
AVT's mechanically robust, drag chain and robot 1394 cables are ideal for moving applications. The high quality cables guarantee low damping and best signal quality for all speeds.

Specifications

Feature	1394a, robust	1394a, drag chain	1394a/b, robotics
Cycles (not directly comparable due to different test conditions)	1,000,000 (2 return sheaves, r = 120 mm)	6,000,000 (drag chain @ radius 75 mm stroke 600 mm accel. 10 m/s² speed 2 m/s)	20,000,000 (Rolling flex @ radius 50 mm stroke 1500 mm accel. 2 g = 19.62 m/s²)
Jacket	Pb free PVC; 7.2 mm Ø	TPE based; 7.5 mm Ø	PU; 7.5 mm Ø
Outer shield	Tinned annealed Cu wire, >85 % coverage	Tinned annealed Cu wire, ca. 90 % coverage	Silver plated Cu
Conductor A (data)	Tinned copper, 30 x 0.08 (AWG26); 0.405 mm	Tinned copper, AWG 26	Silver plated copper, AWG 28
Conductor B (power)	Tinned copper, 105 x 0.08 (AWG20); 0.813 mm	Bare copper, AWG 22	Bare copper, AWG 22
Max. DC resistance	38.3 Ω/km at 20 °C (Conductor B)	264 Ω/km (conductor A) 116 Ω/km (conductor B)	202 Ω/km (conductor A) 64 Ω/km (conductor B)
Char. Impedance	110 Ω ± 6%	n/a	110 Ω ± 5%
Attenuation	0.3 dB/m @ 100 MHz 0.4 dB/m @ 200 MHz 0.6 dB/m @ 400 MHz 1.0 dB/m @ 1000 MHz	n/a	0.3 dB/m @ 100 MHz 0.4 dB/m @ 200 MHz 0.6 dB/m @ 400 MHz 1.0 dB/m @ 800 MHz 1.2 dB/m @ 1000 MHz
Time delay	Max. 5.05 ns/m	n/a	4.3 ns/m
Skew delay	Max. 400 ps/m between pairs	n/a	< 25 ps/m
Compliance	UL 20276 (80 °C, 30 V), ROHS	ROHS, CE, UL, DESINA	ROHS, CE, UL

Pinout

IEEE 1394a



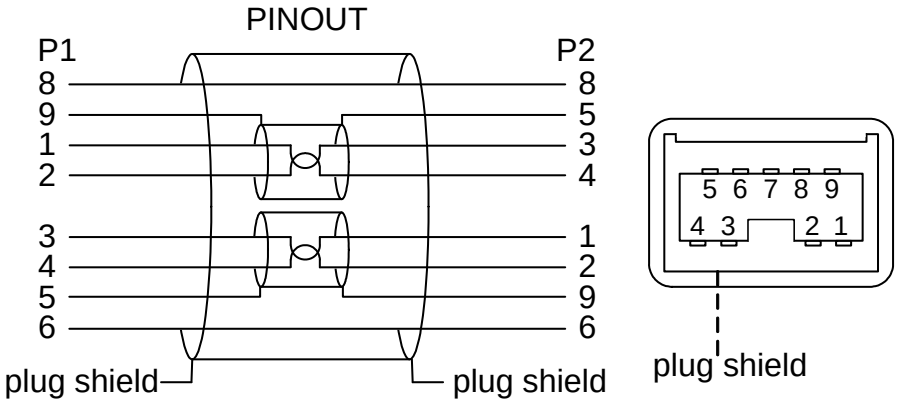
Connectors are viewed as looking at the front plug face.

*Twisted pair shields are only connected by using cable material according to IEEE Std 1394TM -1995.

If cable material according to IEEE Std 1394b™ -2002 is used, twisted pair shields are not connected inside the cable.

Plug 1	Signal name at plug 1	Plug 2
1	V_P (Power Voltage)	1
2	V_G (Power Ground)	2
3	TPB* (Twisted Pair B minus)	5
4	TPB (Twisted Pair B plus)	6
5	TPA* (Twisted Pair A minus)	3
6	TPA (Twisted Pair A plus)	4
Plug shield	Cable outer shield	Plug shield

IEEE 1394b



Connectors are viewed as looking at the front plug face.

Plug 1	Signal @ plug 1	Plug 2
1	TPB* (Twisted Pair B minus)	3
2	TPB (Twisted Pair B plus)	4
3	TPA* (Twisted Pair A minus)	1
4	TPA (Twisted Pair A plus)	2
5	TPA (R) (Twisted Pair A ground reference)	9
6	VG (Power ground)	6
7	No connection	7
8	VP (Power Voltage)	8
9	TPB (R) (Twisted Pair B ground reference)	5
Plug shield	Cable outer shield	Plug shield

Order codes

Description	Length	Order number
Cable 1394a, latch - latch, robust	1.0 m 2.0 m 3.0 m 4.5 m	K1200187 K1200189 K1200190 K1200166
Cable 1394a, latch - latch, drag chain	4.5 m 6.0 m 10.0 m	K1200200 K7200039 K7200038
Cable 1394b, screw lock - screw lock, robot	5.0 m	K1200205

Other cable lengths are available on request.

Description	Cable diameter	Order number
Ferrite for AVT cables	3.5 – 5.0 mm 4.5 – 6.0 mm 6.0 – 7.5 mm	K8420055 K8420057 K8420056
Ferrite removing tool	For all sizes	K8420058

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