ProPlex®

CAT6a S/FTP **ETHERNET CABLE**
PCCAT6AP

The World's Most Durable Ethernet Cables

Road-worthy CAT6a cables for touring applications. 10-Gigabit networking for the road!

ProPlex CAT6a flexible yet rugged patch cables combine outstanding data transmission, noise rejection and very low skew with the ability to withstand the most extreme handling and conditions, indoors and outdoors. Available as fully assembled patch cables, in standard and custom lengths, with your choice of heavy-duty RJ-45 connector formats: ProShell Extra; EtherCon; EtherCon IP Rated; and RJ45. Panel mount connectors are also available for a complete OEM Ethernet wiring solution.

General Specifications	
Part Number	PCCAT6AP
Conductors	24 AWG (0.25 mm^2) 7x0.2 mm stranded tinned copper.
Insulation	Cellular PO, Nom. Diameter 0.055" [1.4 mm] Insulation heat shock: 80 °C/1hour
Pairs	Color Coded singles twisted into pairs Color Code: White X Blue; White X Orange; White X Green; White X Brown
Assembly	Structure: 4 pairs cabled together. Each pair wrapped with an aluminum foil providing 100% coverage. An overall braid with strength yarns
Shields	Aluminum foil over individual pairs 100% coverage plus Tinned copper braid, 80% nominal coverage
Jacket	Material: Industrial grade PU compound OD: 8.1 mm +/- 0.3 mm Color: Black UV Resistant Jacket material heat shock: 120 °C/1hour
Marking	ProPlex PCCAT6AP 24AWG S/FTP Data Cable Cat6a verified [lot no.]
Weight	47 lbs./mft (70 Kg/Km)
Temperature Range	Working: -40 °C to +70 °C
Bending Radius	75 mm min.
Typical Operational Installation Length	Up to 85 m (@ 20 °C)
Tensile Force	150 N max.
Compliance	Flame test: IEC 60332.1 Environmental: per IEC 61156-6 and ISO/IEC 11801 RoHS compliance: 2002/95/EC

RoHS Compliant

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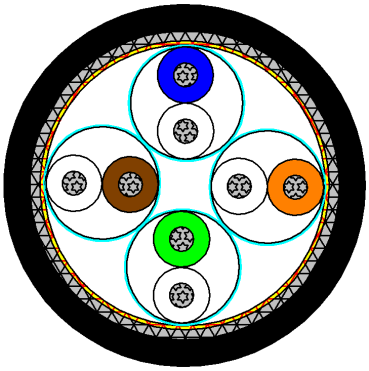
Electrical Specifications	
Dielectric Strength	700 Vrms/min.
Pair Mutual Capacitance	42 pF/m
Capacitance Unbalance	1.4 pF/m (800 Hz)
Pair characteristic impedance	100 +/- 5 Ohm
NVP (Nominal Velocity of Propagation)	78 %
Max skew delay	25 nSec/100m
Conductor DC resistance (20° C)	93 Ohm
Resistance unbalance (within pairs)	2% max.
Insulation resistance	Not less than 5 GΩ-km
Alien cross talk	Proven by design per IEC 61156-6
Coupling Attenuation	Type I per IEC 61156-6
Transfer impedance	Grade 1 per IEC 61156-6
Transverse conversion loss (TCL)	Level A per IEC 61156-6
PoE Compatibility	Yes



Cross Section

Transmission Performance							
Freq. MHz	Attenuation dB/100m 20°C	PS NEXT Loss dB	NEXT Loss dB	RL dB	PS ANEXT dB	PS ELFEXT dB	ELFEXT dB
	Typical value	Typical value	Typical value	Typical value	Typical value	Typical value	Typical value
1	2.4	72.3	75.3	20	67	65	68
4	4.2	63.3	66.3	23	67	53	56
10	6.4	57.3	60.3	25	67	45	48
20	9.1	52.8	55.8	25	67	39	42
30	11.5	50.1	53.1	23.8	67	35.4	38.4
100	21.4	42.3	45.3	21.1	62.5	25	28
150	26.6	39.7	42.7	18.8	59.8	21.5	24.5
200	50.5	37.8	40.8	18	58	19	22
250	34.3	36.3	39.3	17.3	56.5	17	20
300	37.7	35.1	38.1	17.3	55.3	15.5	18.5
400	44.5	33.3	36.3	17.3	53.4	13	16
500	50.5	31.8	34.8	17.3	52	11	14

ProPlex PCCAT6AP meets all CAT6a horizontal specs up to 85 m (and all CAT6a horizontal specs except attenuation up to 100 m).

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PUR Jacket Properties

Jacket Compound Specification

Halogen Free Flame Retardant Polyether-based Polyurethane, Glossy finish. Excellent Hydrolysis resistance. High microbial resistance. UV resistant. High flexibility.

Jacket Testing Results

Test	Test Method	Result
Density	DIN 53479	1.15g/cubic cm
Tensile strength	DIN 53504	40 nom. N/sqmm
Tensile strength after 42 days, H2O 80°C	DIN 53504	30 N/sqmm
Ultimate elongation	DIN 53504	550 nom. % min.
20% modulus	DIN 53504	3.2 N/sqmm
100% modulus	DIN 53504	5.5 N/sqmm
300% modulus	DIN 53504	12 N/sqmm
Tear strength	DIN 53515	60 N/mm
Hardness shore A	DIN 53505	87
Hardness shore D	DIN 53505	36
Melt index- MVR	ISO 1133	30-60 cubic cm/10 min
Brittle point	DIN 53513	-45°C
Abrasion Loss	DIN 53516	40 cubic mm
Compression set (23°C) 70h	DIN 53517	30%
Compression set (70°C) 24h	DIN 53517	50%

PUR Jacket Chemical Resistance Chart

Organic Substances

Medium	Temperature	Concentration	Reaction
Acetic Acid	Room Temp	20%	slight
Acetone	Room Temp	40%	poor
Astm Fuel A	Room Temp	4%	nil
Astm Fuel B	Room Temp	10%	nil
Astm Fuel C	Room Temp	18%	nil to slight
Astm Oil 1	80°C		nil
Astm Oil 2	80°C	3%	nil
Astm Oil 3	80°C	6%	nil
Benzene	Room Temp		poor
Butanol	Room Temp		poor
Butyl Acetate	Room Temp	40%	poor
Citric Acid	Room Temp		slight
Cutting Oil	Room Temp		nil to slight
Cyclohexanol	Room Temp	5%	slight
Dibutylphthalate	Room Temp	40%	slight
Diesel Oil	Room Temp		nil to slight
Diesel Oil	Room Temp	5%	nil
Diethylether	Room Temp		nil to slight
Diethylprestone	Room Temp		nil to slight
Dimethylformamide	Room Temp		soluble
Ethyl Alcohol	Room Temp	100%	slight
Ethylacetate	Room Temp	40%	poor
Ethylether	Room Temp		slight
Glycerin	Room Temp		nil
Glycol	Room Temp	2%	nil
Glysantin / Water 1:1	Room Temp		slight
Glysantin / Water 1:1	80°C		slight
Hydraulic Oil	Room Temp		slight
Isopropanol	Room Temp	12%	slight
Isopropyl Alcohol	Room Temp	100%	slight
Kerosene	Room Temp	3%	nil
Machine Oil	Room Temp		nil to slight
Methanol	Room Temp	10%	slight
Methyl Alcohol	Room Temp	100%	slight
Methylen Chloride	Room Temp		no resistance
Methylethylketone	Room Temp	45%	poor
Mineral Oil	80°C		nil
Olive Oil	Room Temp		nil
Paraffin Oil	Room Temp		nil to slight
Siccinic Acid, Aqu.	Room Temp	cold saturated	nil to slight
Vegetable Oil And Fats	Room Temp		nil

Inorganic Substances

Medium	Temperature	Concentration	Reaction
Acetic Acid	Room Temp	20%	nil to slight
Acetic Acid 3N	Room Temp		poor
Aluminum Chloride, Aqu.	Room Temp	5%	nil
Ammonia, Aqu.	Room Temp	10%	nil
Aniline	Room Temp		no resistance
Barium Salts	Room Temp	cold saturated	nil to slight
Boric Acid	Room Temp	100%	nil to slight
Calcium Chloride	Room Temp	cold saturated	nil to slight
Calcium Nitrate	Room Temp	cold saturated	nil to slight
Chromium Salts, Aqu.	Room Temp	cold saturated	nil to slight
Copper Salts, Aqu.	Room Temp	cold saturated	nil to slight
Fe Chloride, Aqu. 5%	40°C		slight
Hydrochloric Acid 20%	Room Temp	20%	nil to slight
Hydrogen Peroxide	Room Temp	3%	nil to slight
Hydrogen Sulphide	Room Temp		nil to slight
Magnesium Salts, Aqu.	Room Temp	cold saturated	nil to slight
Mercury	Room Temp	100%	nil to slight
Mercury Salts, Aqu.	Room Temp	cold saturated	nil to slight
Nickel Salts, Aqu.	Room Temp	cold saturated	nil to slight
Nitric Acid	Room Temp	20%	no resistance
Phosphoric Acid	Room Temp	50%	nil to slight
Potassium Carbonate, Aqu. (Potash)	Room Temp		nil to slight
Potassium Chloride	Room Temp	cold saturated	nil to slight
Potassium Dichromate, Aqu.	Room Temp		slight
Potassium Iodide	Room Temp		nil to slight
Potassium Nitrate,Aqu.	Room Temp		nil to slight
Potassium Permanganate	Room Temp		nil to slight
Potassium Sulphate, Aqu.	Room Temp		nil to slight
Sea Water	Room Temp	100%	nil
Silver Salts, Aqu.	Room Temp		nil to slight
Sodium Bicarbonate, Aqu. (Soda)	Room Temp		slight
Sodium Chloride, Aqu.	Room Temp		nil to slight
Sodium Chloride Solution, Conc.	Room Temp		nil
Sodium Hydroxide Solution 1N	Room Temp		slight
Sodium Thiosulphate, Aqu.	Room Temp		nil to slight
Sulphur	Room Temp	100%	nil to slight
Sulphur Dioxide	Room Temp		slight
Sulphuric Acid 20%	Room Temp		slight
Toluene	Room Temp	35%	poor
Water	100°C		poor
Water	Room Temp		nil
Water	80°C		nil to slight

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High quality shielded and unshielded RJ45 connectors paired for optimum performance and reliability with ProPlex ethernet cables.

Use this table to determine which ProSeries RJ45 connector to use with each ProPlex cable.
Also the part number for compatible ProShell Backshell, ethernet connector, or snagless rubber boot.

Part Number	Ethernet Cable	Cable OD	ProSeries RJ45 Part Number	ProShell Part Number	Ethernet Connector Part Number	Rubber Boot Part Number
PCCAT5EUTPP	ProPlex	6.2 mm +/- 0.3 mm	RJ45K	PRJ0V2-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45KBTBK
PCCAT5EP26AWG	ProPlex	6.9 mm +/- 0.3 mm	RJ45SKV1	PRJ0V2-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45KBTBK
PCCAT5EPWE	ProPlex	7.1 mm +/- 0.3 mm	RJ45SKV1	PRJ0V2-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45KBTBK
PCCAT5EPU	ProPlex	8.1 mm +/- 0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
PCCAT5EPU2X	ProPlex	7.9 mm +/-0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
PCCAT5ETU4X	ProPlex	8.1 mm +/- 0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
PCCAT6AP	ProPlex	8.1 mm +/- 0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
PCCAT6AP2X	ProPlex	8.6 mm +/- 0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
PCCAT6APX	ProPlex	8.1 mm +/- 0.3 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MH02BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
WDPCAT5ET	DataPlex	7.4 mm +/- 0.254 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MC130BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
WDPCAT6AT	DataPlex	8.3 mm +/- 0.254 mm	RJ45SKV4	PRJ0EX-BK	Seetronic SE8MC130BLOD / Neutrik NE8MXB-1	RJ45V2BTBK
SCCAT6A	StarCable	7.0 ± 0.2 mm	RJ45SKV1	PRJ0V2-BK	Seetronic SE8MC130BLOD / Neutrik NE8MXB-1	RJ45KBTBK

Specifications			
	RJ45K	RJ45SKV1	RJ45SKV4
Housing Material	Clear Polycarbonate, UL94V-2	Clear Polycarbonate, UL94V-2	Clear Polycarbonate, UL94V-2
Contact Material	6U below brass. 15U above phosphor bronze.	Phosphor bronze with 50U hard gold plating	Phosphor bronze with 50U hard gold plating
Shield Material	No Shield	Nickel plated brass	Nickel plated brass
Wire Diameter	23-24 AWG	22-24 AWG	22-24 AWG
Cable Outside Diameter	6-7.5 mm	6-7.5 mm	6-8.6 mm
Operating Temperature	-10 to 60 °C	-40 to 80 °C	-20 to 75 °C
Voltage Rating	30 VAC, 1.5A	125 VAC, 1.5 A	250 VAC, 2.0 A
Dielectric Rating	500 VAC	500 VAC	1000 VAC
Insulation Resistance	500 megaohms	500 megaohms	500 megaohms
Termination Resistance	20 milliohms max.	35 milliohms max.	20 milliohms max
Standards	REACH, FCC Part 68, IEC 60603-7, UL Certified and RoHS compliant.	REACH, FCC Part 68, IEC 60603-7, UL Certified and RoHS compliant.	REACH, FCC Part 68, IEC 60603-7, UL Certified and RoHS compliant.

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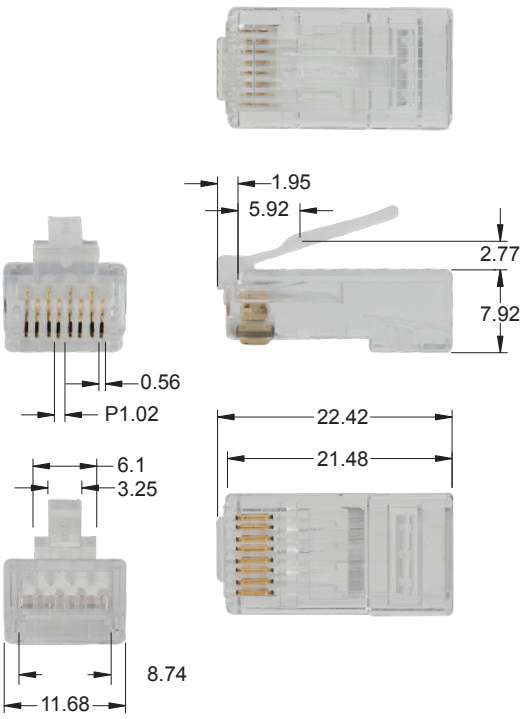
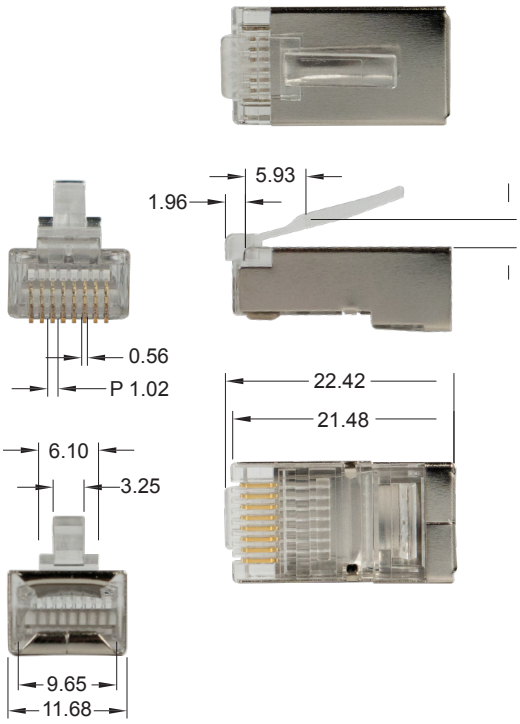
RJ45K

Dimensions in millimeters



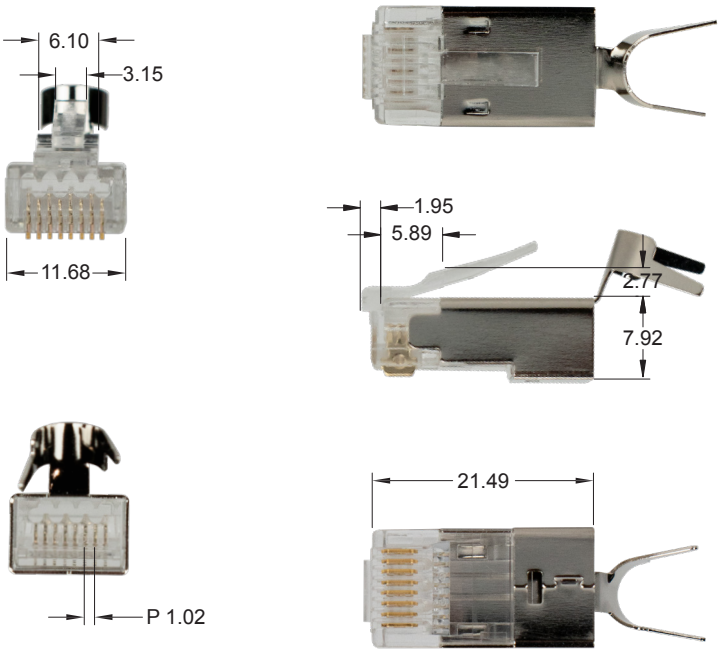
RJ45SKV1

Dimensions in millimeters



RJ45SKV4

Dimensions in millimeters



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