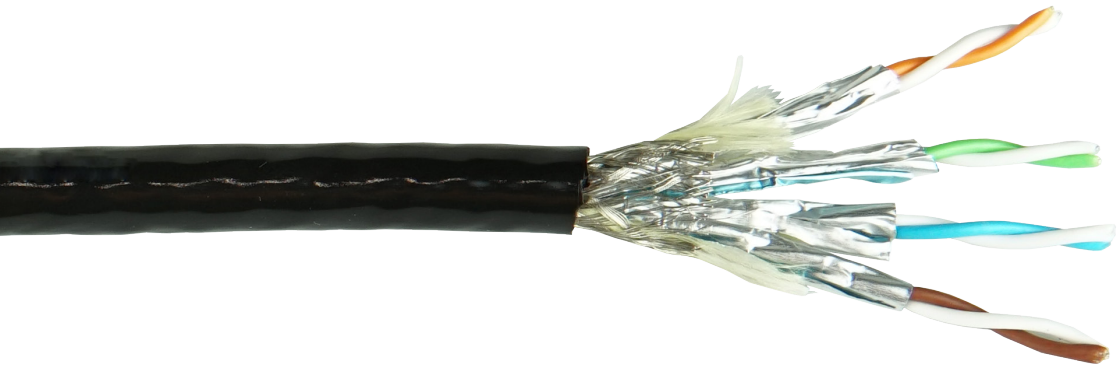
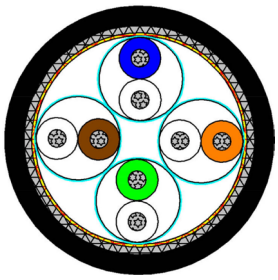
ProPlex®

CAT5e ULTRA S/FTP
ETHERNET CABLE
PCCAT5EPU

The World's Most Durable Ethernet Cables





Cross Section

Dependable, highest quality ProPlex Ethernet cables - From the Super Bowl Half-Time Show, to the Academy Awards, to a rock concert near you, the industry standard for entertainment and live event networks.

Originally developed for the demanding professional live event market, ProPlex Ethernet Cables have since been proven in indoor, outdoor, and temporary underwater applications of all kinds. In addition to entertainment use, they are now trusted for the connection of many different portable networks, including; industrial, scientific, military, marine, communications, and more. The original roadworthy, dependable, verified Ethernet cables, they combine unsurpassed critical data integrity with outstanding durability, long-term reliability and optimum handling characteristics – all proven over many years of professional portable use, over five million meters of cable sold, and over millions of touring miles traveled.

Premium ProPlex CAT5e Ultra S/FTP offers outstanding, fully verified Gigabit performance, extreme noise resistance and practically zero skew. Other superior performance benefits include:

- Full CAT5e performance and data integrity, verified up to 90m!
- Minimal transmission degradation, even after years of heavy use and abuse
- Kevlar reinforced, stranded conductors for long-term portable reliability
- Tear and cut-proof UV-resistant outer jacket
- Suitable for use in CAT6 applications
- Excellent DC resistance. Low attenuation. Low N.E.X.T. (Near-end crosstalk loss)
- High tensile strength. Extreme durability. Easy handling and coiling

RoHS Compliant

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General Specifications

Part Number	PCCAT5EPU
Conductors	24 AWG [0.25 mm²] tinned copper, 7x0.20 mm
Insulation	Cellular PO, Nom. Dia. 0.055" [1.4 mm]
Color Code	White X Blue; White X Orange; White X Green, White X Brown
Assembly	Pairs individually shielded and cabled with strength yarns.
Shields	Inner: Individual aluminum foil for each pair, 100% coverage. Outer: tinned copper braid, 80% coverage.
Jacket	Black, UV resistant industrial grade PU compound.
Marking	ProPlex PCCAT5EPU Ultra S/FTP 24AWG shielded 100MHz Data Cable Cat5e verified [batch no.]
Weight	47 lbs./mft [70 Kg/Km]
Outside Diameter	0.32" [8.1 mm] +/-0.012" [0.3 mm]
Bend Radius	75 mm min
Max. tensile force during installation	150 N
Drag Chain	May be used in drag chain (cable carrier) applications. Avoid surface contact between cables with different jacket materials, or abrasion may result.
Temperature Rating	Operational: -40 to +70 °C
Compliance	Flame test: IEC 60332.1 Environmental: per IEC 61156-6 and ISO/IEC 11801 RoHS compliance: RoHS-2 2015/863/EU

General Information

A 4-pair, 24 AWG, 100 Ohm S/FTP round patch cable, designed to the ISO / IEC 11801 Category 5e requirements. The cable contains 4 twisted pairs, cabled, double shielded with Kevlar reinforcement strands, jacketed in black UV resistant polyurethane. Designed for fixed or portable applications in harsh environments.

Electrical Specifications

Velocity of Propagation	78% nom.
Impedance	100 +/- 5 Ohm (100 MHz)
Delay Skew	25 ns/100 m max.
Dielectric Strength	VAC/1min - 700V/min
Capacitance	42 pF/m nom. @1 KHz
Resistance Unbalance	2% max @ 20 °C
Capacitance Unbalance	1.4 pF/m max. @ 800 Hz
Insulation Resistance	5000 M Ohm / Km Min.
DC Resistance	93 Ohm/Km @ 20 °C
Typical channel length	Up to 90 m @ 20 °C
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	Level A per IEC 61156-6
PoE Compatibility	Yes

Transmission Performance

	10 MHz	16 MHz	62.5 MHz	100 MHz
Attenuation db/10m nom.	0.65	0.85	2.0	2.5
N.E.X.T (Near-End Crosstalk Loss) db min.	58	56	45	43
ACR db min.	57.2	54.9	42.6	40.1

ProPlex CAT5e Ultra Ethernet cable meets attenuation specs up to 90 m (295 ft); meets all other CAT5e performance specs up to 100 m (328 ft)

Reeling Capability

In the core level, under the shields, are 4 conductor pairs and 6 strength members, 3 white and 3 yellow. Two central strength members perform a "tension relief" function. The other 4 are twisted around the pairs, each pair is wrapped in a strength member to perform a "pair structure holding" function. The reason for two types of strength members is that each one has a different prolongation constant – one positive, the other negative – so on average the length of the strength members remains constant and equal to the wire length.

To install on a reel, please use the following guidelines:

- Minimum reel core diameter is 10 cm
- Minimum tension to be used during reeling and unreeling process
- Terminate the cable with plugs before reeling is initiated
- Cable length per reel is 90 meters or less

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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

Key:
Nil: Resistance over a prolonged period.
Nil to slight: After a certain time appreciable differences are noticeable.
Slight: Conditionally resistant.
Poor: Short term contact possible under certain conditions.
No resistance: Pronounced attack

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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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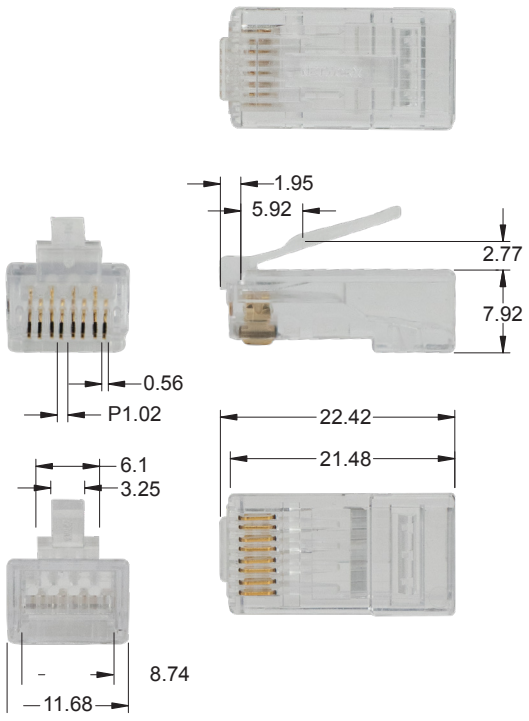
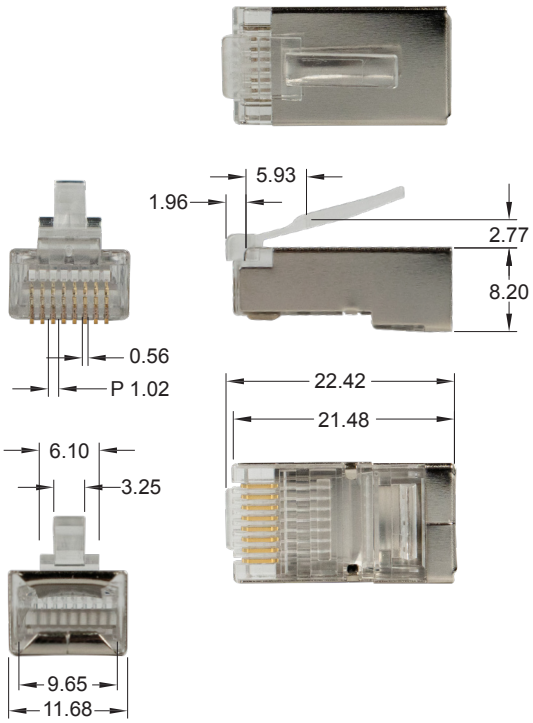
RJ45K

Dimensions in millimeters



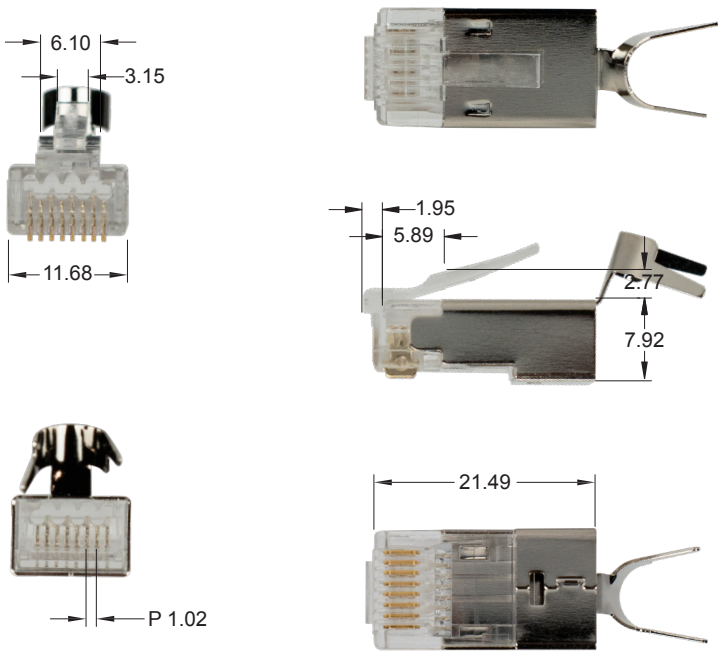
RJ45SKV1

Dimensions in millimeters



RJ45SKV4

Dimensions in millimeters



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