

General Description

PDR Plastic Optical Fiber (POF) Cable Assemblies provide a cost-effective, EMI-immune optical interconnect solution for industrial control, data communication, and electrical isolation applications. The range includes 1 mm step-index SI-POF simplex and duplex cable reels, LC POF plugs, and factory-assembled patch cords in LC, RedLink™, and VersaLink® styles, compatible with PDR's range of POF transceivers and other industry-standard products. Cable is supplied on reels for on-site installation, harness assembly, or custom-length cutting, with UL VW-1 flame-retardant jacket options available. All products comply with IEC 60793-2-40 Class A4a and LC plugs meet IEC 61754-20 Edition 2. Patch cords are available in standard lengths from 30 cm to 5 m.



Key Features

- 1 mm step-index SI-POF with numerical aperture 0.5, compliant with IEC 60793-2-40 Class A4a
- Low attenuation: 0.19 dB/m at 650 nm — ideal for short-range links up to tens of metres
- Simplex cable OD 2.2 mm; duplex (figure-of-8) minor axis 2.2 mm, major axis 4.4 mm
- UL VW-1 flame-retardant jacket option available for building and equipment installations
- Minimum bend radius 25 mm; repeat bending endurance $\geq 10,000$ cycles (≤ 1 dB additional loss)
- Tensile rating: 70 N simplex / 140 N duplex cable
- LC POF plugs comply with IEC 61754-20 Edition 2; crimp fixing, 500 mating cycle durability
- Patch cords available in LC duplex, RedLink™ simplex, and VersaLink® latching simplex formats
- Compatible with Avago/Broadcom BEC and RedLink™, VersaLink®, LC, and OptoLock® transceivers
- Reels available in 500 m and 1,000 m lengths; patch cords in 30 cm, 1 m, 2 m, and 5 m

PDR VIDEOTRONICS (INDIA) PRIVATE LIMITED

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Technical Specifications

Parameter	Specification
Fiber Standard	IEC 60793-2-40 Class A4a (SI-POF)
Numerical Aperture	0.5
Attenuation at 650 nm	≤0.19 dB/m
Fiber Diameter (incl. cladding)	0.94 – 1.06 mm (nominal 1.0 mm)
Cable Diameter — Simplex	2.13 – 2.27 mm (nominal 2.2 mm)
Cable Diameter — Duplex Minor Axis	2.13 – 2.27 mm
Cable Diameter — Duplex Major Axis	4.3 – 4.5 mm
Jacket Material	Flame-resistant PE or PVC
Jacket Color	Black; Duplex cable has white identifying bar on one strand
UL Flame Rating	VW-1
Tensile Stress — Simplex / Duplex	70 N / 140 N
Minimum Bend Radius	25 mm
Repeat Bending Endurance	≥10,000 cycles (≤1 dB additional loss)
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
LC Plug Standard	IEC 61754-20 Edition 2
LC Plug Fixing Method	Crimp
Insertion Force (LC Plug)	9 – 12 N
Retention Force (LC to Transceiver)	≥100 N
Tensile Force (LC Plug to Cable)	≥70 N
LC Plug Durability	500 mating cycles
LC Plug Operating Temperature	-40°C to +85°C
LC Plug Installation Temperature	0°C to +70°C
Patch Cord Tensile Force — LC Connector to Cable	16 N
Patch Cord Tensile Force — Simplex RedLink™ to Cable	8.5 N
Patch Cord Tensile Force — Duplex RedLink™ to Cable	14 N

* Repeat bending endurance tested at 90° bend in direction of minor axis, 25 mm radius, with 500 g deadweight. Loss increment ≤1 dB.

Applications

- Control links within high-voltage electrical control equipment requiring full galvanic isolation
- Data communications systems in environments with extreme electromagnetic interference (EMI)
- Industrial automation links between equipment requiring maintained electrical isolation
- Rugged short-range optical links in harsh factory, process control, and automotive environments
- CATV, broadcast, and consumer electronics interconnects using cost-effective POF technology
- Building automation, industrial Ethernet, and MOST bus links compatible with standard POF transceivers

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Technical Drawings

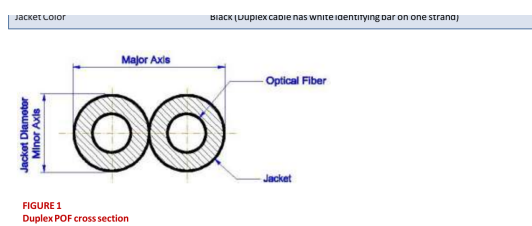


Figure 1 — Duplex POF cable cross section

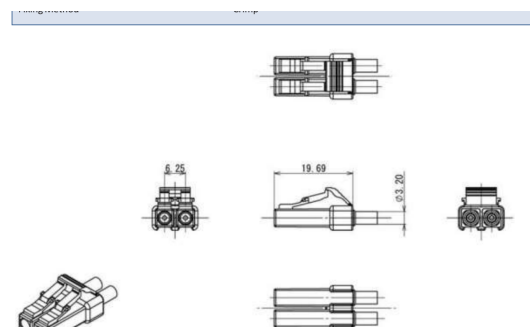


Figure 2 — LC POF plug

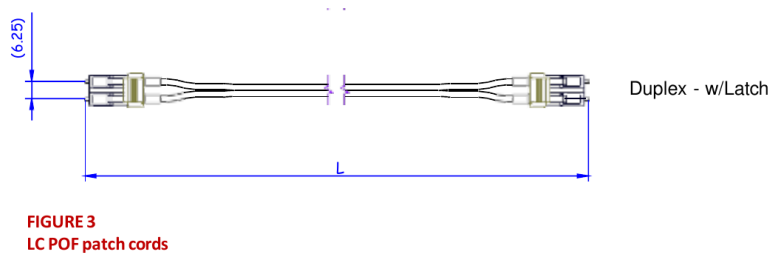
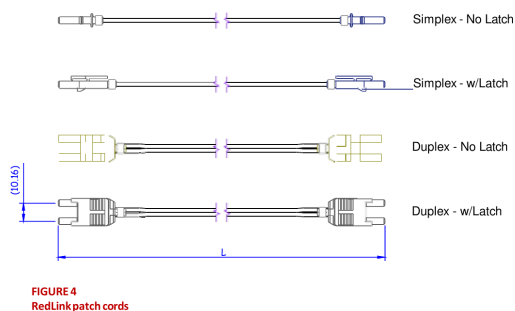


Figure 3 — LC POF patch cords



Note:
Simplex RedLink patch cords have a blue plug at one end and a grey plug at the other end.

Figure 4 — RedLink™ patch cords

Note: Simplex RedLink™ patch cords have a blue plug at one end and a grey plug at the other end.

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Ordering Information

Standard Package Contents

Product Description	Part Number
Simplex POF Reel — black jacket	CC2-1000
Simplex POF Reel — black + white bar	CCW2-1000
Simplex POF Reel — UL VW-1 flame retardant	CCVZ2-1000
Duplex POF Reel — black jacket	DC2-1000
Duplex POF Reel — white jacket	DC2-1000W
Duplex POF Reel — black + white bar	DCW2-1000
Duplex POF Reel — UL VW-1 flame retardant	DCVZ2-1000
LC Duplex Patch Cord (30 cm)	BP-30C-LC
LC Duplex Patch Cord (1 m)	BP-01M-LC
LC Duplex Patch Cord (2 m)	BP-02M-LC
LC Duplex Patch Cord (5 m)	BP-05M-LC
RedLink™ Simplex Patch Cord — friction plugs	BP-xxx-RL
VersaLink® Simplex Patch Cord — latching plugs	BP-xxx-VL

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