ProPlex® Fibre

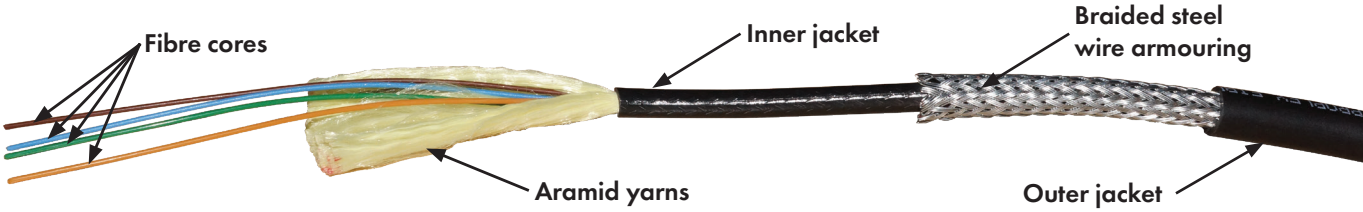
Tactical Fibre Optic Cable

The World's Most Durable Fibre Optic Cable
More than Military Tactical, this Is "Rock & Roll Tactical"!

Protect your critical show data with rugged ProPlex Fibre. Designed by TMB, the world leader in entertainment and staging cabling, ProPlex Fibre is built to be the world's most durable portable fibre cable. For the ultimate in reliability and protection of critical show data in the entertainment and staging markets, the cables provide maximum impact, crush and cut resistance in a flexible easy-to-coil, kink-resistant design.

ProPlex Fibre Rock & Roll Tactical – PCF4OM3PSB15 (quad multi-mode), PCF4SMPS (quad single-mode), and PCF12SMPSB (12-way single-mode)

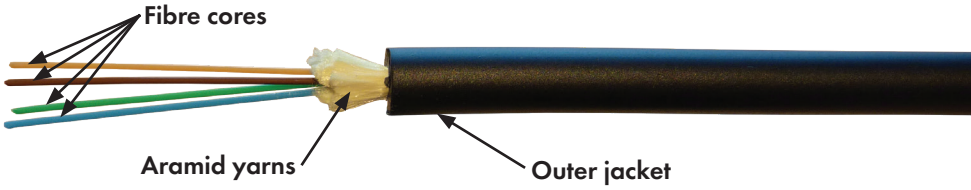
ProPlex "Rock & Roll Tactical" cables feature double cut-proof military-grade jackets, reinforced with 100% coverage, galvanised braided steel armouring (multi-mode). Improved, tighter bend radius permits greater installation flexibility and reliability. Additionally, the internal fibres are protected with a heavy coating of Kevlar Aramid Fibres.



Also available:

ProPlex Fibre Super Tactical – PCF4OM3PT (multi-mode)

Features Kevlar Aramid strength members and extra-thick (4.8 mm), military-grade double jacket for exceptional protection from repeated bending and coiling.



Fibre fanout assemblies

OpticalCon breakout assemblies also available

Caution – All fibre cables, even ProPlex, require special and careful handling!

OpticalCON

CERTIFIED opticalCON ASSEMBLER

RoHS Compliant

Worldwide Exclusive Distribution

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Design and Materials

	Rock and Roll Tactical Multi-mode Quad	Rock and Roll Tactical Single-mode Quad	Rock and Roll Tactical Single-mode 12-fibre	Super Tactical Multi-mode Quad
Part number	**PCF4OM3PSB15**	**PCF4SMPS**	**PCF12SMPSB**	**PCF4OM3PT**
Number of Fibres	4	4	12	4
Buffer Material	Polyester Elastomer			
Buffer Diameter	900 µm			
Colour code	Per TIA/EIA 598-C			
Strength Elements	Aramid Yarns			
Inner Jacket Material	PUR	PUR	PUR	None
Armouring	Braided Galvanised Steel Wire	Braided Galvanised Steel Wire	Braided Galvanised Steel Wire	None
Outer Jacket Material	PUR			
Outer Diameter	7.8 mm +/- 0.3 mm	8.5 mm +/- 0.3 mm	10.2 mm +/- 0.3 mm	8.5 mm +/- 0.3 mm
Weight	74 kg/km	95 kg/km	129 kg/km	62 kg/km
Outer Jacket Colour	Black			
Marking	PROPLEX ROCK & ROLL TACTICAL QUAD FIBRE OM3 MULTI-MODE BRAIDED STEEL WIRE ARMOUR (Lot/Metre Length)	PROPLEX FIBRE QUAD SM SWA (Lot/Metre Length)	PROPLEX ROCK & ROLL TACTICAL 12 FIBRE SINGLE-MODE BRAIDED STEEL WIRE ARMUOR (Lot/ Metre Length)	PROPLEX FIBRE SUPER TACTICAL QUAD OM3 (Lot, Metre Length)

Standards

	PCF4OM3PSB15	PCF4SMPS	PCF12SMPSB	PCF4OM3PT
Applicable Standards	IEC 60794, IEC 60794-1-21/22, ISO/IEC 11801, TIA/EIA-568			IEC 60794
Installation	Guidelines as per IEC 60794-1-1 Annex A			

Performance

	PCF4OM3PSB15	PCF4SMPS	PCF12SMPSB	PCF4OM3PT
Max. Tensile Strength -Short Term	2600 N	2500 N	2600 N	2500 N
Max. Tensile Strength -Long Term	1500 N	1500 N	1500 N	1500 N
Impact Resistance	20 N*m	20 N*m	20 N*m	20 N*m
Max. Crush Resistance	2000 N/cm	2000 N/cm	2000 N/cm	800 N/cm
Min. Bend Radius for Installation	20x Dia.	20x Dia.	20x Dia.	80 mm
Min. Bend Radius for Operation	20x Dia.	20x Dia.	20x Dia.	60 mm
Repeated Bending	2000 cycles	2000 cycles	2000 cycles	10000 cycles
Torsion (L=125 x d)	10 cycles	10 cycles	10 cycles	TBD
Max. Operating Temperature	+85 °C	+85 °C	+85 °C	+75 °C
Min. Operating Temperature	-55 °C	-55 °C	-55 °C	-40 °C
Max. Installation Temperature	+45 °C	+45 °C	+45 °C	TBD
Min. Installation Temperature	-20 °C	-20 °C	-20 °C	TBD
Max. Storage Temperature	+85 °C	+85 °C	+85 °C	+85 °C
Min. Storage Temperature	-55 °C	-55 °C	-55 °C	-50 °C
UV resistance	Yes	Yes	Yes	Yes

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Multi-Mode Fibre Specifications

ISO/IEC 11801 Performance Category		OM3[1]
Attenuation	@ 850 nm	≤ 3.0 dB/km
	@ 1300 nm	≤ 1.0 dB/km
OFL Bandwidth[2]	@ 850 nm	≥ 1500 MHz•km
	@ 1300 nm	≥ 500 MHz•km
Efffective Modal Bandwidth @ 850nm		≥ 2000 MHz•km
Supported Ethernet Link Lengths (max.)		
1GbE[3]	@ 850 nm (1000BASE-SX)	970 m [6]
	@ 1300 nm (1000BASE-LX)	550 m [6]
10GbE[4]	@ 850 nm (10GBASE-SR)	300 m
	@ 1300 nm (10GBASE-LX4)	300 m
40/100 GbE[5]	@ 850 nm (40/100 GBASE-SR4/10)	100 m
Numerical Aperture		0.20 ± 0.015 mm
Core Diameter		50 ± 2.5 µm
Cladding Diameter		125 ± 1 µm
Core Non Circularity		≤ 4 %
Cladding Non-Circularity		≤ 0.7 %
Core/Cladding Offset		≤ 1.5 µm
Coating Diameter (Un-dyed)		245 ± 10 µm
Proof-Test Level		0.7 GN/m2
Induced Macrobend Attenuation	100 turns on 37.5mm radius	0.5 / 0.5 dB (max.) 850nm/1300nm
	2 turns on 15mm radius	0.1 / 0.3 dB (max.) 850nm/1300nm
	2 turns on 7.5mm radius	0.2 / 0.5 dB (max.) 850nm/1300nm

Single-Mode Fibre Specifications

Attenuation	@ 1310 nm	≤ 0.40 dB/km
	@ 1550 nm	≤ 0.30 dB/km
Dispersion	between 1285 and 1330 nm (O Band)	≤ 3.5
	between 1530 and 1565 nm (C Band)	≤ 18
	between 1565 and 1625 nm (L Band)	≤ 22
Zero Dispersion Wavelength		1312±12 nm
Zero Dispersion Slope		≤ 0.092 ps/(nm²•km)
Supported Ethernet Link Lengths (application dependant)		
1GbE[7]	@ 1310 nm (1000BASE-LX)	2000 m
10GbE[7]	@ 1310 nm (10GBASE-LR/LW)	2000 m
40GbE[7]	@ 1310 nm (40GBASE-LR4)	2000 m
Mode Field Diameter	@ 1310 nm	9.2±0.4 µm
	@ 1550 nm	10.4±0.6 µm
Cable Cut-Off Wavelength		≤1260 nm
PMD (Individual fibre)		≤ 0.2 ps/km$^{1/2}$
Cladding Diameter		125±0.7 µm
Core/Cladding Concentricity Error		≤ 0.5 µm
Cladding Non-Circularity		≤1.0 %
Coating Diameter (un-dyed)		245±5 µm
Proof-Test Level		0.7 GN/m²

1. Per IEC 60793-2-10 type A1a.2 and TIA 492AAAC
2. Per IEC 60794-1-41 and TIA/EIA 455-204
3. Per IEEE 802.3z
4. Per IEEE 802.3ae
5. Per IEEE 802.3ba
6. Per IEEE 1GbE link model
7. Per IEEE 802.3

Cross Section
PCF4OM3PSB15 and PCF4SMPS
Rock & Roll Tactical

Cross Section
PCF12SMPSB
Rock & Roll Tactical

Cross Section
PCF4OM3PT
Super Tactical

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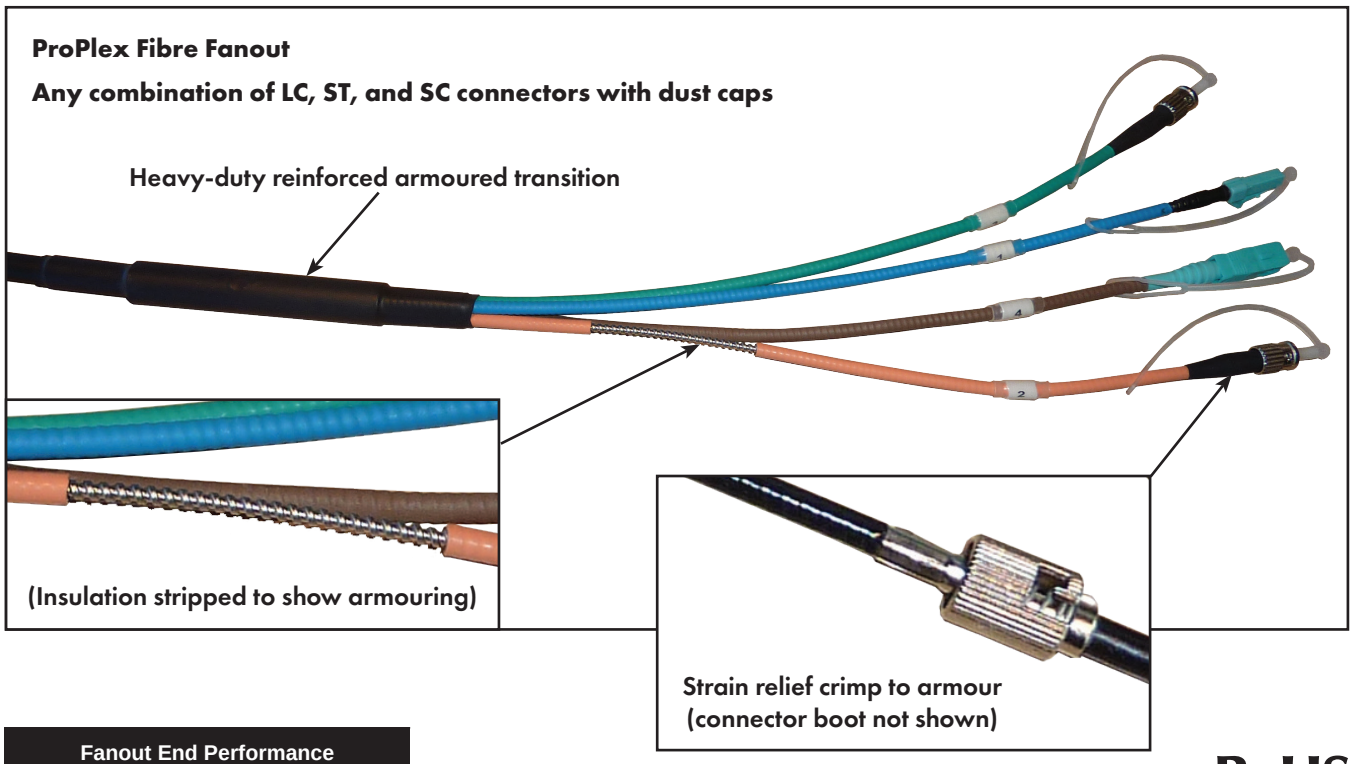
ProPlex® Fibre

4- and 12-Way Fibre Fanout and Breakout Assemblies

Unprecedented durability in fibre fanout and breakout assemblies. Designed for long-term, hard use on the road!

- Innovative, metal-armoured breakout sleeving installed over each fibre core. Provides outstanding protection and strain relief.
- Single- and multi-mode versions available
- Built to order with custom, printed heatshrink and/or labels
- LC, ST, and SC connectors
- Dust caps protect fibre ends
- 4- and 12-way fanouts, R&R Tactical Quad fanouts, and OpticalCon Quad breakouts available

OpticalCon Quad breakout



Fanout End Performance	
Min. Bend Radius	0.875 in [22 mm]
Crush Resistance	1167 kN/m

RoHS Compliant

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Tactical Fibre Optic Cable Assemblies

Also in stock at TMB are ready-made ProPlex Quad Fibre assemblies, available for immediate shipment. Stock assemblies feature Neutrik OpticalCon™ Quad or Duo connectors, complete with protective caps.

Note: We make our OpticalCon Duo assemblies with Quad cable. The symmetrical, square, Quad configuration protects the fibres from damage by crushing much better than two fibres, where one often ends up on top of the other. Cost difference between two and four fibres is negligible, while four fibres are considerably more durable.

Standard stock assembly lengths are: 1.5, 5, 30, 150 and 300 metres. The 30 and 150 metre assemblies are supplied on a professional-grade cable reel, in a lightweight travel case. The 300 metre assemblies include reel only (except on special order). All other stock lengths are supplied in a protective Cordura carrying bag. Other assembly lengths, cables and connector types are available by special order.

Neutrik OpticalCon (standard on ProPlex Fibre cable assemblies)

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- **2 or 4 PC optical channels for optimised point-to-point LC inter-connectivity.**
- **Ruggedized, durable all-metal housing.**
- **Spring-loaded push-pull locking mechanism for excellent cable retention.**
- **OpticalCon protection covers standard on ProPlex Fibre cable assemblies and ProPlex Devices.**
- **Reel and lightweight fibre case included with standard 30 and 150 metre assembly lengths. Also available as an option for custom lengths. The case is ideal for light protection, or to protect the fibre reel inside a larger heavy-duty flight case or trunk.**

Reel and case sizes by assembly length

Length	Case Type	Case Size	Reel Size	Weight
Up to 5 M	Cordura Bag	11x11 in	n/a	3.5 oz
		280x280 mm	n/a	0.1 kg
6-100 M	Small reel and case	20x16x12 in	19.1x15x11.2 in	10.3 lb
		508x406x305 mm	485x380x285 mm	4.7 kg
101-150 M	Medium reel and case	23x19x13 in	21.8x17.6x12.2 in	11.9 lb
		584x483x330 mm	554x445x310 mm	5.4 kg
151-300 M	Large reel no case	n/a	28x22.8x9.9 in	30.6 lb
		n/a	710x580x250 mm	13.9 kg

Neutrik OpticalCon Protective Covers

- **OpticalCon covers standard on fibre optic assemblies and applicable ProPlex Devices.**
- **Rugged sealing covers fully protect fibre contacts from dust and dirt.**
- **When Line and Chassis connectors are mated, covers also mate to prevent any contamination.**

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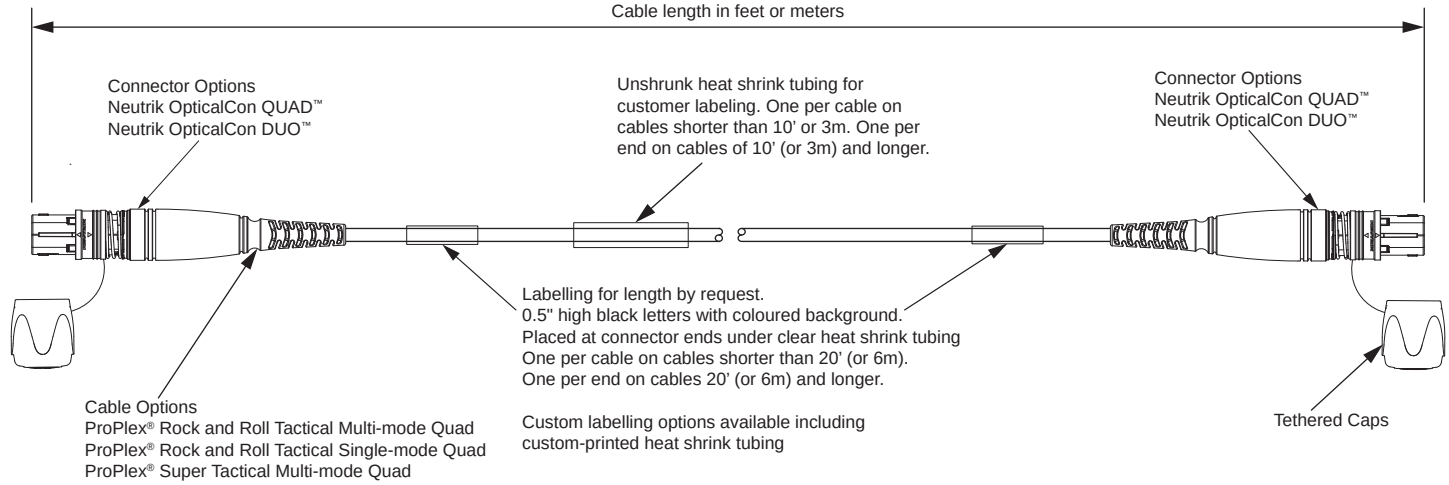
TACTICAL FIBRE OPTIC CABLE ASSEMBLIES



NOT TO SCALE

Example Code

Z	PFMB15	4BB	50M	C	L

Z	Designates cable assembly

PFMB15	ProPlex® Rock and Roll Tactical Quad MM Fibre OM3
PFMT	ProPlex® Super Tactical Quad MM Fibre OM3
PFS	ProPlex® Rock and Roll Tactical SM Quad Fibre

4BB	Neutrik OpticalCon™ QUAD connectors
4AA	Neutrik OpticalCon™ DUO connectors

50M	Length of cable in meters

	Leave blank for no reel or case*
C	Small reel and case (5-150 meters)
R	Large reel (150+ meters)

* Short assemblies up to 5 meters include storage pouch

	Skip this section unless ordering custom labelling
L	Labelled for length or custom labelling

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