

SETTING STANDARDS



The applications for fiber are extensive



A few years ago, the use of fiber optic cabling in professional AV applications was limited to such special cases as HD broadcast cameras. Since then, the AV industry's adoption of fiber optics has increased immensely. Today, fiber optics are widely used for digital signal transmission in pro audio, professional broadcast, and the touring / rental industries. As pro audio and broadcast equipment has evolved from analog to digital data transmission, the industry has attempted to adapt connectors originally designed for data communication (e.g. RJ45 connectors for electrical transmission). Today, that trend continues with fiber optic connectors. However, conventional data communication fiber optic connectors (ST, SC, LC, etc.) have a risk of failure when they are deployed in AV applications. These conventional data connectors are optimized for permanent, one-time connection. They were never designed for mobile applications or to handle high mating cycles in harsh environments. Alternative connectors, originally developed for military applications, have not been cost effective and have been deficient either in regards to dust protection and

maintenance and/or in their attenuation and return loss characteristics.

Neutrik understood these deficiencies and solved the various issues associated with mobile fiber optic connectivity when it launched its opticalCON® fiber optic line in 2005. The opticalCON® design is based on a unique concept which combines low maintenance, high mating cycles, and a safe connection in the field. As a result, opticalCON® has gained wide acceptance in the pro audio and professional broadcast industries. Both well known equipment manufacturers and key industry users have put their trust in opticalCON® for many years.

opticalCON®

opticalCON[®] ADVANCED CABLE CONNECTORS



TRUST
THE
ORIGINAL

opticalCON® MTP® 12 ADVANCED Cable Connector Assembly



NKO12SA-A*



- Ruggedized and dirt-protected 12-channel fiber optic connection system
- For point-to-point multichannel routing based on MTP® technology
- Cable connector features rugged metal housing and heavy-duty cable retention
- Spherical shutter guarantees low maintenance
- Dust and water resistant according to IP65 in mated condition
- Easy to clean, no special tools required
- Reliable Push-Pull locking mechanism
- Cable connector comes pre-assembled with a choice of mobile field cables
- Wiring Type A

The MTP® is a multichannel fiber optic connector based on MPO (“Multifiber Push On”) technology (IEC-61754-7).

opticalCON MTP® 12

Rugged and lightweight 12-channel mobile field cable, excellent cable retention due to aramid yarn, black PUR outer jacket, available in multimode PC and singlemode APC.

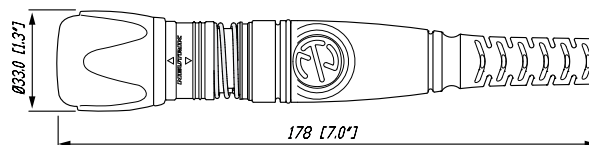
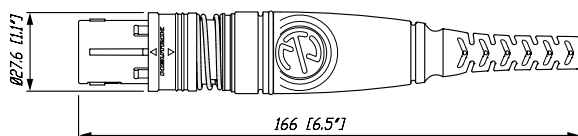
12M / 12S (A)



opticalCON MTP® X-TREME

12-channel X-TREME cable offering a cut-proof and rodent resistant double jacket glass yarn armoured cable construction, excellent cable retention due to aramid yarn, black PUR outer jacket.

X12M / X12S (A)



* ... MTP® is a trademark of US Conec (www.usconec.com)



**SETTING
STANDARDS**

Technical Data

Technical Data Optical Cable Connector

Optical connector	MTP®	
	female	
Fiber	Multimode, Singlemode PC / APC	•
Insertion loss	< 0.9 dB / connection	•
min. Return loss	PC > 50 dB	•
	APC > 60 dB	•
Wiring	Type A	•

MECHANICAL

Insertion / withdrawal force	< 45 N	•
Lifetime (mating cycles)	> 2'500	•
Cable retention force	Fiber only > 500 N	•

MATERIAL

Shell	Zinc diecast (ZnAl4Cu1), black chrome plating	•
Insert / Insulation	PA 6 POM, PC, PEI	•
Insert colour	MM: black, SM PC: blue, SM APC: green	•
Strain relief	Brass, Ni plated	•
Bushing	ZnAl4Cu1	•
Boot	EPDM, rubber boot	•

ENVIRONMENTAL

Operating temp.	-40°C to +75°C	•
Flammability	UL94 HB	•
Protection class	in mated condition IP65	•

Technical Data Cables

	12M	12SA	X12M	X12SA
Max. number of fibers	12	12	12	12
Mode - Multimode PC	•	-	•	-
- Single mode PC / APC	-	•	-	•
Fiber - 50 / 125-OM3	•	-	•	-
- 9 / 125-G657A	-	•	-	•
Bend optimized fiber	•	•	•	•
Laser optimized fiber	•	N/A	•	N/A
Outer shield				
- Copper braid	-	-	-	-
- Coated glass yarn	-	-	•	•
- Stainless steel Jacket	-	-	-	-
Strength member				
- GFK	-	-	-	-
- Stainless Steel	-	-	-	-
Cable retention				
- Aramid yarn	•	•	•	•
- Crimp type	-	-	-	-
Overall diameter (mm)	8.2	8.2	10.9	10.9
Jacket - PUR black matte	•	•	•	•
Optical connector				
- LC-Duplex	-	-	•	•
- LC based	•	•	•	•
Min. bending radius (cm)	8.2	8.2	10.9	10.9
Weight (kg / km)	60	60	103	103
Attenuation (dB / km)	@ 850 nm - 2.5 @ 1300 nm - 0.5	@ 1310 nm - 0.5 @ 1550 nm - 0.3	@ 850 nm - 2.5 @ 1300 nm - 0.5	@ 1310 nm - 0.5 @ 1550 nm - 0.3
Bandwidth (MHz-km)	@ 850 nm ≥ 1500 @ 1300 nm ≥ 500		@ 850 nm ≥ 1500 @ 1300 nm ≥ 500	
Refraction index	@ 850 nm - 1.482 @ 1300 nm - 1.477	@ 1310 nm - 1.467 @ 1550 nm - 1.467	@ 850 nm - 1.482 @ 1300 nm - 1.477	@ 1310 nm - 1.467 @ 1550 nm - 1.467

Packaging options and max. cable length see on the part number generator - www.neutrik.com



- 0... Airspool
- 1... opticalCON Case
- 2... Drum Schill GT310
- 3... Drum Schill GT380



opticalCON® MTP® 24 ADVANCED

Cable Connector Assembly

NEW



NKO24M-A*

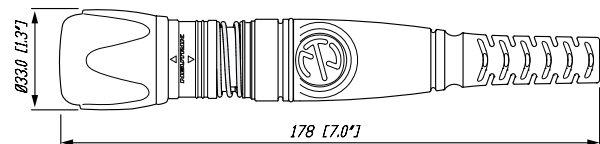
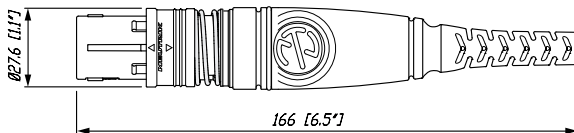
- Ruggedized and dirt-protected 24-channel fiber optic connection system
- For point-to-point multichannel routing based on MTP® technology
- Cable connector features rugged metal housing and heavy-duty cable retention
- Spherical shutter guarantees low maintenance
- Dust and water resistant according to IP65 in mated condition
- Easy to clean, no special tools required
- Reliable Push-Pull locking mechanism
- Cable connector comes pre-assembled with a choice of mobile field cables
- Wiring Type A

opticalCON MTP® 24

24-channel mobile field cable with excellent cable PUR outer jacket, available in multimode PC and singlemode APC.

24M / 12S (A)

NEW



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Technical Data

Technical Data Optical Cable Connector

Optical connector	MTP®	
	female	
Fiber	Multimode, Singlemode PC / APC	•
Insertion loss	< 0.9 dB / connection	•
min. Return loss	PC > 50 dB	•
	APC > 60 dB	•
Wiring	Type A	•

MECHANICAL

Insertion / withdrawal force	< 45 N	•
Lifetime (mating cycles)	> 2'500	•
Cable retention force	Fiber only > 500 N	•

MATERIAL

Shell	Zinc diecast (ZnAl4Cu1), black chrome plating	•
Insert / Insulation	PA 6 POM, PC, PEI	•
Insert colour	MM: black, SM PC: blue, SM APC: green	•
Strain relief	Brass, Ni plated	•
Bushing	ZnAl4Cu1	•
Boot	EPDM, rubber boot	•

ENVIRONMENTAL

Operating temp.	-40°C to +75°C	•
Flammability	UL94 HB	•
Protection class	in mated condition IP65	•

Technical Data Cables

	24M	24SA	X24M	X24SA
Max. number of fibers	24	24	24	24
Mode - Multimode PC	•	-	•	-
- Single mode PC / APC	-	•	-	•
Fiber - 50 / 125-OM3	•	-	•	-
- 9 / 125-G657A	-	•	-	•
Bend optimized fiber	•	•	•	•
Laser optimized fiber	•	N/A	•	N/A
Outer shield				
- Copper braid	-	-	-	-
- Coated glass yarn	-	-	•	•
- Stainless steel Jacket	-	-	-	-
Strength member				
- GFK	-	-	-	-
- Stainless Steel	-	-	-	-
Cable retention				
- Aramid yarn	•	•	•	•
- Crimp type	-	-	-	-
Overall diameter (mm)	8.2	8.2	10.9	10.9
Jacket - PUR black matte	•	•	•	•
Optical connector				
- LC-Duplex	-	-	•	•
- LC based	•	•	•	•
Min. bending radius (cm)	8.2	8.2	10.9	10.9
Weight (kg / km)	43	43	103	103
Attenuation (dB / km)	@ 850 nm - 2.5 @ 1300 nm - 0.5	@ 1310 nm - 0.5 @ 1550 nm - 0.3	@ 850 nm - 2.5 @ 1300 nm - 0.5	@ 1310 nm - 0.5 @ 1550 nm - 0.3
Bandwidth (MHz-km)	@ 850 nm ≥ 1500 @ 1300 nm ≥ 500		@ 850 nm ≥ 1500 @ 1300 nm ≥ 500	
Refraction index	@ 850 nm - 1.482 @ 1300 nm - 1.477	@ 1310 nm - 1.467 @ 1550 nm - 1.467	@ 850 nm - 1.482 @ 1300 nm - 1.477	@ 1310 nm - 1.467 @ 1550 nm - 1.467

Packaging options and max. cable length see on the part number generator - www.neutrik.com



- 0... Airspool
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- 2... Drum Schill GT310
- 3... Drum Schill GT380





Accessories

Accessories for Cable Connector



SCNO*X-A



SCNO*X-A-NC



NAO4ML-A



NOR-*

SCNO*X-A	Rubber coated protection cover for opticalCON cable connectors, including black chrome front housing
SCNO*X-A-NC	Light weight noise cancelling rubber protection cover for opticalCON cable connectors, including front housing
SCNO*X-R ¹⁾	Rubber coated protection cover for opticalCON cable connectors, ruthenium plated front housing, upgrade kit old connector
NOR-*	Color coding ring for cable connector chassis
NAO4ML-A	opticalCON QUAD LOOP connector, multimode
NAO4SL-A	opticalCON QUAD LOOP connector, singlemode

*: 0- black, 1- brown, 2- red, 3- orange, 4- yellow, 5- green, 6- blue, 7- violet, 8- grey, 9- white



¹⁾: find part numbers on www.neutrik.com

opticalCON Pulling Solutions

Single pulling sock
FOPS-SINGLE



Split pulling sock
FOPS-SPLIT



Application example: FOPS-SPLIT

- Pulling sock simplifies installation
- Pulling force > 100 kg
- Protects connectors in mated / unmated condition

FOPS-SPLIT	Split cable pulling sock
FOPS-SINGLE	Single cable pulling sock for DUO / QUAD or MTP® cables.