



Data Connectors

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Neutrik's data connector range copes with the increasing demand of digital connections in the professional audio, broadcast and entertainment industry. Networking and computerized controls have to be equipped with reliable and rugged interconnection systems, since conventional data connectors can not meet the demanding requirements of live / rental or broadcast applications. Neutrik® early understood this trend and realized a range of ruggedized connection systems based on standard digital interconnection products like Fiber Optic and Network Interconnections as well as Digital Interfaces like USB, Firewire and now as well HDMI.



Fiber Optic

Some years ago fiber optic has been used for speciality cabling like HD broadcast cameras only. Meanwhile digital signal and network applications in Pro Audio, Broadcast and Touring / Rental spring up like mushrooms which opens a wide range of fiber optic use.

The application depth is multiple, some examples are:

- Network (Audio, Data or DMX) transmissions with >70 m (mobile) or >100 m (installation) length, based on Pro Equipment (e.g. Mixers) offering fiber optic connections or using a fiber optic switch
- Digital HD video transmissions > 15m (e.g. DVI, HDMI or KVM projection) using fiber optic media converters
- Future prove installations eliminating bandwidth limitations
- Noise and EMI protection on Audio or Video (LED walls) applications
- Increased bandwidth especially on broadcast applications
- Signal embedding to minimize cabling efforts especially on broadcast applications with help of Pro Equipment or media converters

The trend to use connectors out of the Datacom / Computer industry for Pro Audio and Broadcast applications (RJ45 connectors) did also not stop short of fiber optic connectivity.

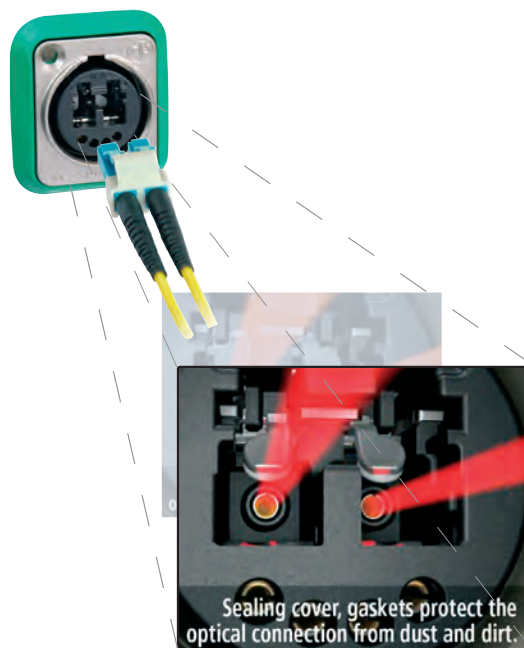
Conventional Datacom fiber optic connectors like ST, SC or LCs are optimized for one time permanent connection but can not meet the rough requirements of mobile applications and high mating cycles as required for the entertainment industry. By necessity used military connectors have been expensive and showed either high attenuation and return loss or no dust protection.

Design Criteria

Neutrik as connectivity specialist for rough entertainment applications solved these problems when launching the opticalCON DUO fiber optic connection system in 2005. The reliable and simple concept has proven its ruggedness and low maintenance which led to a wide acceptance in the pro audio and broadcast industry. Well-known equipment manufacturers of pro equipment as well as key users in broadcast and rental / touring trust in the opticalCON DUO. It is our goal to turn it to an industry standard comparable to the widely used etherCON series.

The opticalCON system is based on LC-Duplex connectors but eliminates its weakness and guarantees a safe, dust protected and rugged connection. Being compatible to conventional LC connectors the opticalCON DUO offers the choice of using cost effective LC cables or the rugged opticalCON mobile cable assembly. This final user flexibility choosing a cost effective LC for system integration or a rugged cable for mobile applications is appreciated by OEMs.

The new opticalCON QUAD is based on the proven opticalCON DUO connection system but with 4 fiber channels it is optimized for POINT-TO-POINT interconnections. The system copes with the increasing need for fiber optic channels, offers a armoured X-TREME cable for highest reliability and helps to minimize different connection standards with an innovative TRIPLE-SPLIT 12-channel solution.

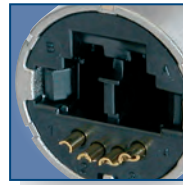




Rugged metal housing



Cable drum



Rear LC connection



Sealing shutters



Chassis with transceiver adapter and SFP transceiver

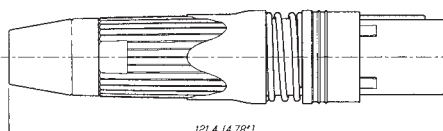
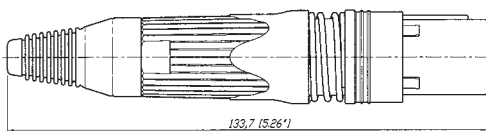
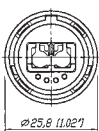
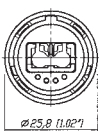
Cable Connector Assembly



NK02S-S5-R-O-*

- Ruggedized and dirt protected 2 channel fiber optic connection system
- Waterproof acc. to IP65 in mated condition
- Cable connector comes pre-assembled with a choice of several mobile field cables
- Accommodates standard optical LC-Duplex connectors
- Cable connector features rugged all metal housing and heavy duty cable retention
- Excellent dust and dirt protection due to automatic sealing shutter with silicone gasket
- Reliable Push-Pull locking mechanism
- Easy to clean, no tools required
- Cable packed in case, on drum or air spool
- Field repairable

NK02M-4S75*



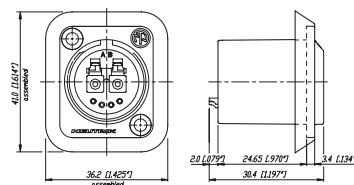
Chassis Connector



NO2-4FDW

- Suggested OEM connectors due to LC front compatibility
- Accommodates standard LC connectors on the rear for simple installation
- Designed as feedthrough with automatic sealing shutter
- Shutter with silicone gasket protects optical connection from dust and dirt
- Waterproof acc. to IP65 ingress protection in mated condition
- Rubber sealing gasket (black, blue, green to identify fiber mode)
- Connection on the front side either by rugged opticalCON or standard LC connector

NO2-4FDW



Transceiver Adapter

- Eases design integration of the opticalCON chassis connectors (NO2-4FDW*) in combination with all LC SFP transceivers
- Sealing shutter avoids transceiver soiling
- Avoids vandalism, opticalCON "protects" the transceiver





Colour Coding



Sealed and rugged housing



Sealing shutter



Sealed housing



Rear LC connection

Cable Connector Assembly

NEW

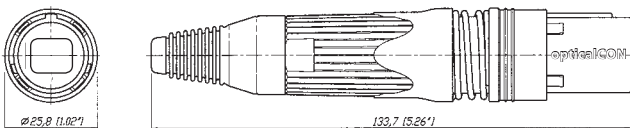


NK04M

NK012S*
Triple-Split 12-channel cable

- Rugged 4 channel fiber optic connection system
- For POINT-TO-POINT multichannel routing
- Innovative spherical shutter guarantees low maintenance
- Dust and water resistant according to IP65 in mated condition
- Choice of 4 and 12 channel mobile field cables
- TRIPLE-SPLIT 12 channel cable featuring 3 opticalCON QUAD connectors on both ends, allowing standardized 4-channel connectivity for multichannel POINT-TO-POINT cabling.
- opticalCON X-TREME cable for demanding applications like touring / rental or outdoor broadcast offering a cut-proof and rodent resistant double jacket glass yarn armoured cable construction.
- TRIPLE-SPLIT color coded (red, yellow, white)

NK04



Chassis Connector

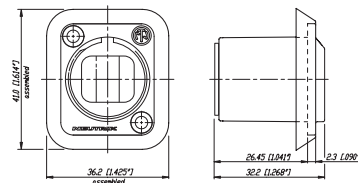
NEW



NO4FDW-R

- Rugged 4 channel POINT-TO-POINT multi channel routing solution
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Waterproof acc. IP65 (mated), rubber sealing gasket
- Accommodates standard LC connectors on the rear for cost effective and simple installations
- Rubber sealing gasket (black, blue, green to identify fiber mode)

NO4FDW-R



Technical Data opticalCON Connectors

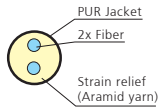
Optical		opticalCON 2		opticalCON 4	
		Cable	Chassis	Cable	Chassis
Optical connector		LC-Duplex	LC-Duplex Feedthrough	PC	LC-Duplex (rear)
Fiber	M, SM PC, SM APC	●	●	●	●
Insertion loss	< 0.5 dB / connection	●	●	●	●
Mechanical					
Insertion / withdrawal force	< 45 N	●	●	●	●
Lifetime	> 1'000 cycles	●	●	●	●
Cable retention force	Fiber only	> 500 N	-	●	-
	Hybrid	> 500 N	-	-	-
	SMPTE	> 350 N	-	-	-
Electrical					
Number of electrical contacts		4	4 (5)	-	-
Rated current	6 A	NKO2M-4S75*	●	-	-
	10 A (contact 1+4)	NKO2S(A)-SMPTE*	●	-	-
Contact resistance	< 7 mΩ	●	●	-	-
Insulation resistance	- initial:	> 10 GΩ	●	-	-
	- after damp heat test:	> 1 GΩ	●	-	-
Dielectric strength	1500 V dc	●	●	-	-
Rated voltage	50 V ac	● ¹	● ¹	-	-
Material					
Shell	Zinc diecast (ZnAl4Cu1)	(hard Nickel / Ruthenium plating)	●	●	●
Insert / Insulation		Polyamid PA 6, PBT 30% GR, PBT 50% GR	●	●	●
Insert colour		MM: black, SM PC: blue, SM APC: green	●	●	●
Contacts	- male:	Brass (CuZn39Pb3)	●	-	-
	- female:	Bronze (CuSn6)	-	●	-
Contact surface		Gold (gal 0.2 µm Au over 2 µm Ni)	●	●	-
Strain relief		POM (brass)	●	-	-
Bushing		ZnAl4Cu1	●	-	-
Boot		EPDM, rubber boot	●	-	-
Slit sleeve		ceramics	-	●	●
Environmental					
Operating temperature	-25°C to +75°C	flammability UL94 HB	●	●	●
Solderability complies with IEC 68-2-20			●	●	-

¹... Not compatible to SMPTE 304M standard. Suitable for indoor (studio) camera links considering specific conditions acc. to IEC 60664-1 like pollution degree 1, overvoltage category 1 and rated voltage. For detailed information ask for the White Paper "opticalCON @ SMPTE Indoor Applications".

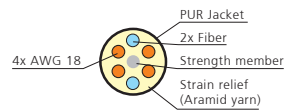
Technical Data Fiber Cables

		2M	2S / 2SA	2M-4S75	2S-S1 / 2SA-S1	4M	4S / 4SA	XM	12S / 12SA
Attenuation:	@ 850 nm	3		2.5					
	@ 1300 nm	1		0.7					
	@ 1310 nm		0.5		0.45		0.5		0.5
	@ 1550 nm		0.5		0.5		0.3		0.3
Bandwidth:	@ 850 nm	500		500		600		600	
	@ 1300 nm	500		500		1200		1200	
	@ 1310 nm								
	@ 1550 nm								
Refraction index:	@ 850 nm	1.468		1.482		1.468		1.468	
	@ 1300 nm	1.468		1.477		1.468		1.468	
	@ 1310 nm		1.458		1.468		1.467		1.467
	@ 1550 nm		1.458		1.468		1.467		1.467

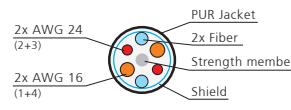
Technical Data Mobile Cables opticalCON DUO



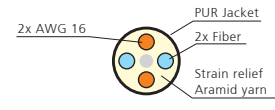
2M / 2S / 2SA



2M-4S75



2S-S1 / 2SA-S1



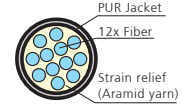
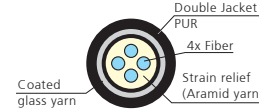
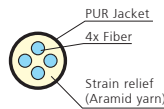
2S-S5 / 2SA-S5

	2M	2S / 2SA	2M-4S75	HYBRID	
				2S-S1 / 2SA-S1	2S-S5 / 2SA-S5
Number of Fibers	2	2	2	2	2
Fiber type	Multimode	Singlemode PC/APC	M	S PC/APC	S PC/APC
Core diameter	50 µm	9 µm	50 µm	9 µm	9 µm
Cladding diameter	125 µm	125 µm	125 µm	125 µm	125 µm
Copper wires	-	-	4 x AWG 18 (0.75mm ²)	2 x AWG 24 + AWG 16	2 x AWG 16
Outer shield	-	-	-	Copperbraid-Tinned	-
Strength member	-	-	GFK	Stainless Steel	-
Cable retention	Aramid yarn	Aramid yarn	Aramid yarn	Crimp type	Aramid yarn
Overall diameter	5 mm	5 mm	8.9 mm	9.2 mm	7.5 mm
Jacket	PUR	PUR	PUR	PVC	PUR
Optical connector	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex
Colour	black, matte	black, matte	black, matte	black, matte	black, matte
Min. bending radius	4 cm	4 cm	10 cm	10 cm	8 cm
Weight	23 kg/km	23 kg/km	78 kg/km	118 kg/km	65 kg/km
Wiring					

Technical Data Mobile Fiber Cables opticalCON QUAD

opticalCON QUAD
X-TREME

opticalCON QUAD
TRIPLE SPLIT



	4M	4S / 4SA	X4M	X4S / SA	12M	12S / 12SA
Number of Fibers	4	4	4	4	12	12
Fiber type	M	S	M	S/SA	M	S
Core diameter	50 µm	9 µm	50 µm	9 µm	50 µm	9 µm
Cladding diameter	125 µm	125 µm	125 µm	125 µm	125 µm	125 µm
Copper wires	-	-	-	-	-	-
Outer shield	-	-	coated glass yarn	coated glass yarn	-	-
Strength member	-	-	-	-	-	-
Cable retention	Aramid yarn	Aramid yarn	Aramid yarn	Aramid yarn	Aramid yarn	Aramid yarn
Overall diameter	5.8 mm	5.8 mm	9.2 mm	9.2 mm	8.2 mm	8.2 mm
Jacket	PUR	PUR	PUR	PUR	PUR	PUR
Optical connector	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex	LC-Duplex
Colour	black, matte	black, matte	black, matte	black, matte	black, matte	black, matte
Min. bending radius	5 cm	5 cm	10 cm	10 cm	9 cm	9 cm
Weight	31 kg/km	31 kg/km	79 kg/km	79 kg/km	76 kg/km	76 kg/km
Wiring						

Ordering Information

Coding of Mobile Cables

Find a convenient
opticalCON part number
generator on
www.neutrik.com

N K O 2 M - 4 S 7 5 - R 3 - 5 0 (Example)

NEUTRIK opticalCON cable assembly

no suffix Ni

		Cable		Plating		Packaging						Cable length [m]				
		fiber	copper	hard Nickel	Ruthenium	0	1	2	3	3F	4	0	1	2	3	4
opticalCON DUO	2-channel	2M (PC)	-	•	•	•	•	•	•	•	•	< 2000	< 30	< 150	< 300	< 900
		2S (PC) 2SA (PC)	-	•	•	•	•	•	•	•	•	< 2000	< 30	< 150	< 300	< 900
	HYBRID M	2M (PC)	- 4S75	•	•	•	•	-	•	-	•	< 2000	< 30	-	< 75	< 200
	SMPTE	2S (PC) 2SA (APC)	- S1	•	•	•	•	-	•	-	•	< 2000	< 30	-	< 75	< 200
opticalCON QUAD	Low Voltage Hybrid SM	2S (PC) 2SA (APC)	- S5	-	•	•	•	-	•	-	•	< 2000	< 30	-	< 150	< 450
	4-channel	4M	-	-	•	•	•	•	1)	•	•	< 2000	< 30	< 150	< 300	< 900
		4S (PC) 4SA (APC)	-	-	•	•	•	•	1)	•	•	< 2000	< 30	< 150	< 300	< 900
	4-channel X-treme	X4M (PC)	-	-	•	•	•	-	•	1)	•	< 2000	< 30	-	< 75	< 200
opticalCON TRIPLE		X4S (PC) X4SA (PC)	-	-	•	•	•	-	•	1)	•	< 2000	< 30	-	< 75	< 200
	12-channel	12M (PC)	-	-	•	•	-	-	•	1)	•	< 2000	-	-	< 150	< 400
		12S (PC) 12SA (APC)	-	-	•	•	-	-	•	1)	•	< 2000	-	-	< 150	< 400

1) ... Male-Female assembly on request; PC ... physical contact; APC ... angled physical contact;

Packaging

0 ... Airspool



1 ... opticalCON Case



2 ... Drum Schill GT310



3 ... Drum Schill GT380

3F (male-female)



4 ... Drum Schill HT582



Chassis Connectors	Colour	Plating	Fiber	Solder contacts	Shell ground contact
NO2-4FDW	*	hard Nickel	2	4	-
NO2-4FDW-R	*	Ruthenium	2	4	-
NO2-4FDW-1	*	hard Nickel	2	4	1
NO2-4FDW-1-R	*	Ruthenium	2	4	1
NO4FDW-R	*	Ruthenium	4	-	-

* ... Coloured labeling to indicate the fiber mode included (black: M, blue: S PC, green: S APC)

Accessories

NEW



NAO2S-4S75W



NAO4MW



NAO2SA-SFP-LC



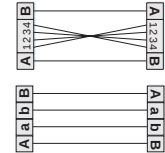
opticalCON with transceiver adapter and SFP transceiver



Breakout cable NKO*-BO*

Coupler

	Colour (fiber mode)	Plating	Fiber	Copper wire
NAO2M-4S75W	black	black	2 x LC-Duplex Multimode PC	4 x 0.75 mm ²
NAO2S-4S75W	blue	black	2 x LC-Duplex Singlemode PC	4 x 0.75 mm ²
NAO2SA-4S75W	green	black	2 x LC-Duplex Singlemode APC	4 x 0.75 mm ²
NAO4MW	black	black	4 x Multimode PC	-
NAO4SW	blue	black	4 x Singlemode PC	-
NAO4SAW	green	black	4 x Singlemode APC	-



Transceiver Adapter

NAO2M-SFP-LC	grey	Transceiver Adapter connects opticalCON chassis (NO2-4FDW*) and multimode LC SFP transceiver
NAO2S-SFP-LC	blue	Transceiver Adapter connects opticalCON chassis (NO2-4FDW*) and singlemode LC SFP transceiver
NAO2SA-SFP-LC	green	Transceiver Adapter connects opticalCON chassis (NO2-4FDW*) and singlemode APC LC SFP transceiver

Accessories and Assembly Tools



NDO



SCNKO



SCDP-*



CRNKO-*



SCDX



FOCD-SFM-125



FOCD-CLETOP-S-B

NDO	dummyPLUG for opticalCON chassis connector
SCNKO	Dirtprotection for opticalCON cable connector
SCDP-*	D-Size sealing gaskets, colour coding for fiber mode and 12-channel split cable (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
CRNKO-*	Colour coding spring (*: 2- red, 4- yellow)
SCDR	Rear end protection cover for D-size chassis connectors
SCDX	Hinged cover seals D-size chassis connectors, IP42 rated
FOCD-SFM-125	Fiber optic cleaning device for chassis connectors
FOCD-CLETOP-S-B	Fiber optic cleaning device for cable connectors



LC emergency repair for opticalCON DUO



opticalCON connector Field assembly

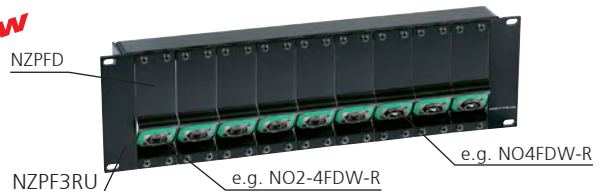
(find more details on www.neutrik.com)

D-shape Z-panels

NEW



NEW



NZPF1RU	Panel frame 1RU opticalCON	NZPFBP	Panel frame blind plate
NZPF3RU	Panel frame 3RU opticalCON	NZP1RU	Panel 1RU D-shape housing
NZPFD	Panel frame plate opticalCON		(find more details on www.neutrik.com)

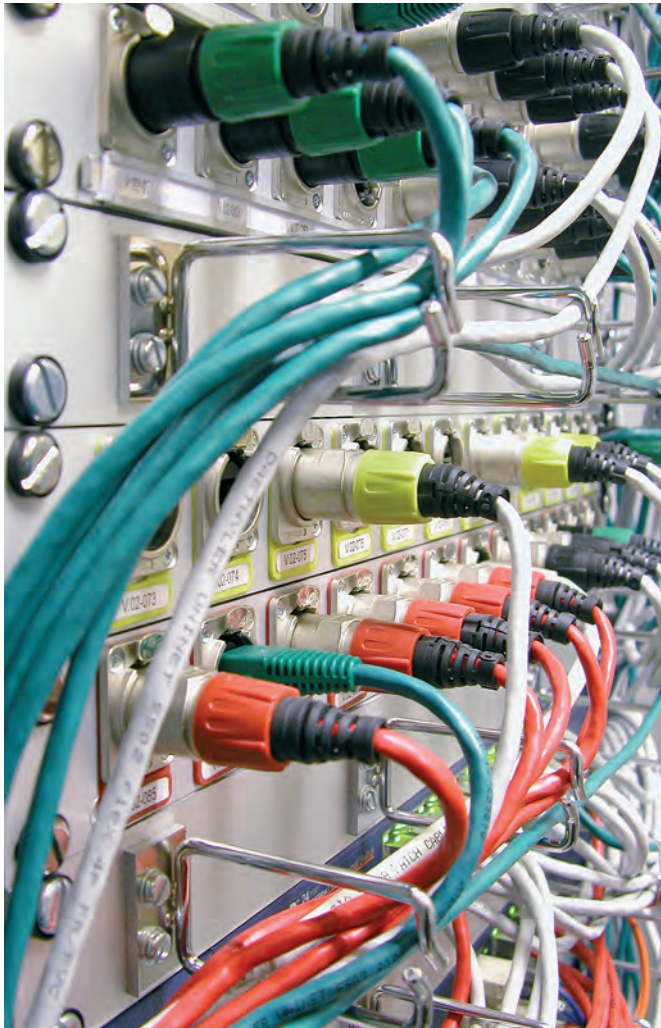
Breakout boxes

NO4SBB1-2	opticalCON QUAD breakout box: 1 x NO4FDW-R to 2 x NO2-4FDW-R, S (channel A connected)
NO4SABB1-2	opticalCON QUAD breakout box: 1 x NO4FDW-R to 2 x NO2-4FDW-R, SAPC (channel A connected)
NO4MBB1-2	opticalCON QUAD breakout box: 1 x NO4FDW-R to 2 x NO2-4FDW-R, M (channel A connected)
NO4SBB1-4	opticalCON QUAD breakout box: 1 x NO4FDW-R to 4 x NO2-4FDW-R, S (channel A connected)
NO4SABB1-4	opticalCON QUAD breakout box: 1 x NO4FDW-R to 4 x NO2-4FDW-R, SAPC (channel A connected)
NO4MBB1-4	opticalCON QUAD breakout box: 1 x NO4FDW-R to 4 x NO2-4FDW-R, M (channel A connected)

NEW



NO4SBB1-4



Ruggedized RJ45 Data Connector

etherCON provides solutions for data transfer in harsh and demanding applications. These connectors are especially applicable for Ethernet networking in audio, commercial, entertainment, live stage production, DMX lighting, industrial and outdoor internet access environments.

The etherCON series offers male cable carriers, assembled female receptacles, feedthrough jacks, cable coupler and shielded versions with or without illumination possibilities by LEDs. The male cable end offers a rugged diecast metal shell as a carrier for pre-assembled RJ45 plugs, which does not require the re-termination of the cable assembly. Female chassis receptacles are based on the current Neutrik "A & B" series as well the "D" series of XLR receptacles with secure latching system - a feature not found on other RJ45 receptacles. Terminations include horizontal and vertical PCB mount or IDC. Colour coding is available for both the cable carriers and the receptacles for ease of identification.

Ingress protection of IP54 is achieved on the CAT 5 version by assembling the waterproof kit SE8FD while CAT 6 versions are IP65 rated as standard.

Neutrik etherCON receptacles comply with CAT 6, CAT 5e (IDC versions) or Class D (PCB versions), shielded or unshielded according to TIA / EIA 568B and ISO / EC 11801 standard.

Example of etherCON RJ45 Data Connector.

etherCON chassis overview

	Class D Fastethernet 10/100 Base-T	CAT 5e Gigabit 1000 Base-T	CAT 6 10 Gigabit (IP65)
PCB mount	NE8FAV NE8FBV NE8FDV NE8FAH NE8FBH*	NE8FDH-C5E	
IDC		NE8FAV-Y* NE8FDV-Y*	NE8FDY-C6
Feedthrough		NE8FDP NE8FF	



Rugged diecast shell


Colored coding
Bushing

Cable Carriers



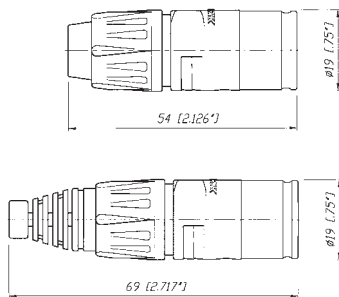
NE8MC



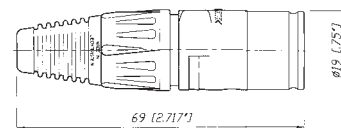
NE8MC-1 + BSE2

- The RJ45 system for harsh and demanding environment
- Cable connector carrier accepts the most common RJ45 plugs
- Cable carrier has rugged diecast shell and unique chuck type strain relief
- NE8MC-1 version with weatherproof Collinox plating and O-ring gasket
- Protects Ethernet connections in a variety of commercial type applications and is designed to prevent breakage of the fragile components of standard RJ45 connectors
- Cable carrier does not include RJ45 plug

NE8MC



NE8MC-1





Horizontal PCB



Vertical PCB



IDC Terminals

Receptacles



NE8FAV + ACRF-2



NE8FBH



NE8FAV-YK



NE8FDV



NE8FDV-Y110-B

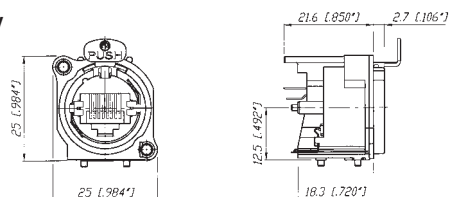


NE8FDH-C5E

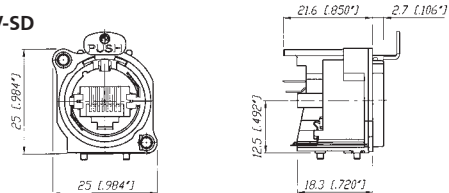
- "A / B" and "D" sized receptacles available in vertical and horizontal PCB or IDC terminations
- Accommodates NE8MC carriers or any standard RJ45 Plug
- D-versions with unified metal flange equal to "D" series-XLR, speakON, powerCON and BNC Bulkhead

- Receptacles comply with Class D (PCB versions) or CAT 5e (IDC versions and NE8FDH-C5E) according to TIA / EIA 568B and ISO / IEC 11801 standard
- D-version mountable from the front or rear of the panel
- Version with screw domes to fix connector onto PCB securely (NE8FAV-SD)

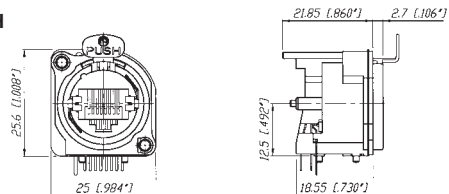
NE8FAV



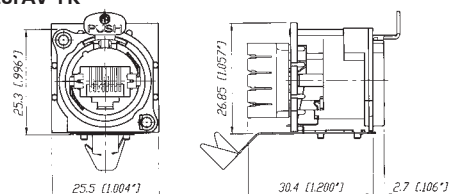
NE8FAV-SD



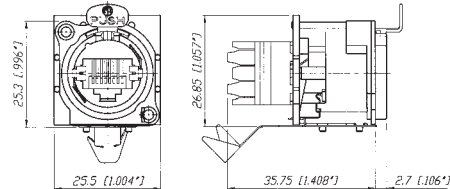
NE8FBH



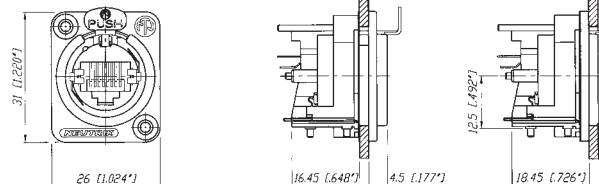
NE8FAV-YK



NE8FAV-Y110



NE8FDV





Completely closed housing



Light pipe



NE8FDP rear side



Locking latch

Shielded & Lighted



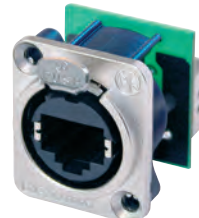
NE8FBH-S



NE8FBH-LED

- Comprehensive shielding granted by completely closed metal housing
- Improves EMC performance of appliance even in unmated condition
- Lighted version offers in addition various illuminating indication possibilities by means of two separate light pipes
- Light pipes illuminated by standard 3 mm LEDs - to be mounted on PCB by customer

Feedthrough



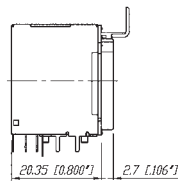
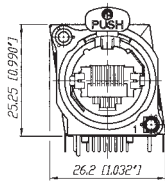
NE8FDP



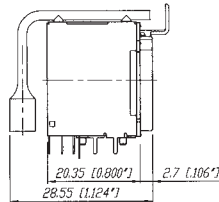
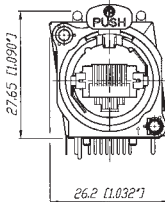
NE8FF

- Feedthrough as panel mount receptacle and as cable coupler
- NE8FDP feedthrough connector in D series housing for use in patchfields - rear side accommodates standard RJ45 plug
- NE8FF coupler (adapter) for cable to cable mating - use with NE8MC carriers or any standard RJ45 plugs

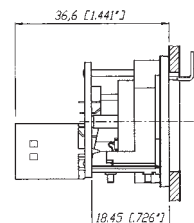
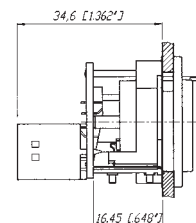
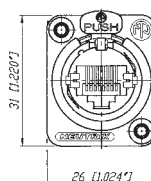
NE8FBH-S



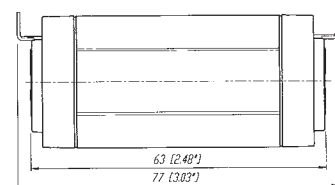
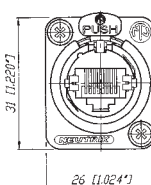
NE8FBH-LED



NE8FDP



NE8FF



Specification		NE8MC* Cable Con.	NE8FA/B* (A + B Series)	NE8FD* (D Series)
Electrical				
Number of contacts		- ¹⁾	8	8
Rated current per contact	< 1.5 A	- ¹⁾	●	●
Rated voltage	< 50 V ac	- ¹⁾	●	●
Contact resistance	< 10 mΩ	- ¹⁾	●	●
Insulation resistance	> 500 MΩ	- ¹⁾	●	●
Dielectric strength	> 1'000 V ac rms	- ¹⁾	●	●
Frequency bandwidth	1 - 100 MHz	- ¹⁾	●	●
Transmission class acc. TIA / EIA 568B or IEC 11801	CAT 5e	- ¹⁾	●	● NE8FDH-C5E
	Class D	- ¹⁾	PCB Versions	PCB Versions
				NE8FDV
Mechanical				
Retention method	latch lock	●	●	●
Life time (mating cycles)	> 1'000 mating cycles	●	●	●
	> 200 mating cycles	-	-	SE8FD
Insertion / withdrawal force	≤ 20 N	●	●	●
Cable O.D. range	3.5 - 8 mm	●	-	-
Wire size	AWG 26 - 20	- ¹⁾	NE8*-Y*	NE8*-Y*
Panel thickness	max. 3 mm / 0.12"	-	●	4 mm / 0.16"
Material				
Housing	PBT D202G30	-	●	●
	Zinc diecast (ZnAlCu1, gal Ni / bl Cr / Collinox)	●	-	-
B / D-flange	Zinc diecast (ZnAlCu1, gal Ni / bl Cr)	-	●	●
Strain relief clamp	POM	●	-	-
	CuZn35Pb2, Tin plated	-	NE8*-Y*	NE8*-Y*
Contacts	Bronze (CuSn6)	- ¹⁾	●	●
Contact surface	Au (gal 0.2 μm over Ni plating)	- ¹⁾	●	●
Locking Element	Ck 67 steel, treated	-	●	●
Bushing	Polyamide (PA 6 15% GR)	●	-	-
Boot	Polyamide (PA 6)	●	-	-
Sealing gasket	EPDM	-	-	SE8FD
Environment				
Operating Temperature	-30°C to +80°C	●	●	●
	-20°C to +60°C	-	-	SE8FD
Protection class	IP54	-	-	SE8FD
Flammability	UL94V-0	UL94 HB	●	●
Solderability complies with IEC 68-2-20		-	PCB Version	PCB Version
Mating screw		-	A screw	E screw
Colour coding		BSE-* / BSX-*	ACRF-*	DSS-*

¹⁾...Specs depend on type of RJ45 plugs used

Ordering Information

Cable Connector

NE8MC	Cable housing with chuck and bushing (two antikink boots, one up to 5 mm and one up to 8 mm cable O.D.) (standard bushing in black, 9 different coding colours on request)
NE8MC-B	Black chromium housing with chuck and bushing (two antikink boots, one for 5 mm and one for 8 mm cable O.D.) (standard bushing in black, 9 different coding colours on request)
NE8MC-1	Cable housing with chuck and X-series bushing, Collinox plating and O-ring gasket (perfect for waterproof applications) (standard bushing in black, 9 different coding colours on request)
NE8MC-B-1	Black chromium housing with chuck and X-series bushing (standard bushing in black, 9 different coding colours on request)
IMPORTANT:	Cable connectors do not include RJ 45 plug. RJ 45 cable assembly must be provided by end-user!

Receptacle	A-shape (all plastic)	B-shape (Nickel ring)	D-shape
Horizontal PCB	NE8FAH	NE8FBH	
Vertical PCB	NE8FAV	NE8FBV	NE8FDV
Vertical PCB with additional screw domes	NE8FAV-SD**		
IDC terminals	NE8FAV-YK**		NE8FDV-YK**
IDC 110 punch down terminals	NE8FAV-Y110**		NE8FDV-Y110**
Horizontal PCB with metal housing (shielded)		NE8FBH-S	
Horizontal PCB in CAT5e			NE8FDH-C5e
Horizontal PCB with metal housing and light pipe		NE8FBH-LED	
** ... includes 2 mounting screws			

Feedthrough

NE8FDP	Receptacle (includes 2 mounting screws)
NE8FF	Coupler

Accessories

								
A screw	E screw	E screw Nickel	ACRF-*	DSS-*	BSE-*	BSX-*	SCDX	SCDP-*
A-Screw	Mounting screw for A / B -shape (black self-tapping PLASTITE® screw 2.9 x 8, panhead)							
E-Screw	Mounting screw for D-shape (black self-tapping PLASTITE® screw 2.9 x 12, countersunk)							
E-Screw-Ni	Mounting screw for D-shape (Nickel self-tapping PLASTITE® screw 2.9 x 12, countersunk)							
ACRF-*	Coloured coding rings for A-shape receptacles (Box of 100 pcs.)							
BSE-*	Coloured boot for cable connector carrier (Box of 100 pcs.)							
BSX-*	Coloured bushing for NE8MC-1 and NE8MC-B-1 cable connectors							
DSS-*	Lettering plate for D series, coloured plastic							
NZP1RU	Panel1RU D-shape housing							
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)							
SCDX	Hinged cover seals D-size chassis connectors, IP42 rated							
	*: 0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White							

Waterproof kit for etherCON D-Series



Waterproof assembly kit - SE8FD

SE8FD	Waterproof kit, IP 54, consists of push, gasket, frontplate Suitable for all NE8FD*, perfect in combination with NE8MC-1 (with Collinox plating and sealing gasket)
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D-shape metal shell



Closed shielding



Push Pull locking



IP65 in mated condition

CAT6 Receptacles



NE8FDY-C6



NE8FDY-C6-B

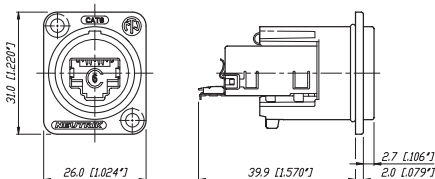
CAT6 Patch Cable



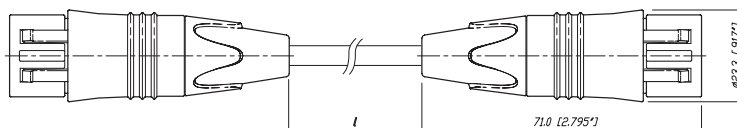
NKE6S-*

- CAT6 compliant - data rate up to 10 GBit/s
- IP 65 rated - with dust and waterproof resistant sealing
- Push Pull mating design provides secure locking system
- Shielded system - high noise immunity and EMI protection
- IDC contacts offer gas-tight termination
- Ready made patch cables with rugged diecast cable carrier and unique chuck-type strain relief

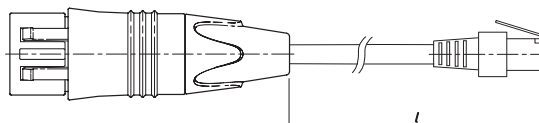
NE8FDY-C6



NKE6S-*



NKE6S-*-WOC



Design Criteria

The ruggedized RJ45 CAT6 connection system, provides solutions for high bandwidth data transfer in harsh and demanding environments. This series offers additional headroom for high performance Fast Ethernet 100BaseT and Gigabit Ethernet 1000BaseT connectivity in audio, lighting, live stage and industrial environments and even guarantees to be prepared for future 10 Gbit applications (true CAT6). The etherCON CAT6 series offers a D-shape panel connector with metal housing and secure latching system. Tool-free IDC termination makes cable assembly easy and fast. The preassembled CAT6 patch cables use a shielded S/FTP cable with cable plug carrier offering a robust metal shell and Push-Pull locking system. Integrated sealing rings make the system dust and waterproof to IP 65 rating.

Features & Benefits:

- CAT6 performance – fast data transmission and high bandwidth applications
- CAT6 specifications according TIA / EIA 568B, ISO / IEC 11801, EN 50173
- Shielded system - high noise immunity and EMI protection
- Push Pull mating - secure and proven locking system
- D-shape metal panel connector
- Ground lead jumper on panel connector with selectable grounding option
- IDC termination without tool
- Ready made patch cables with rugged cable carrier and unique chuck-type strain relief
- Dust and waterproof according IP 65

Technical Data

Electrical	Receptacle	Patch cable	Materials	Receptacle	Patch cable
Number of contacts	8	8	Housing	Zinc diecast	Zinc diecast
Rated current per contact	1.5 A	1.5 A	Adapter	Polyamide PA 6	Polyamide PA 6
TIA / EIA rating	CAT6	CAT6	Strain relief clamp	-	POM
Input to output resistance	< 200 mΩ	< 200 mΩ	Contacts	Bronze CuSn	Bronze CuSn
Insulation resistance	> 500 MΩ	> 500 MΩ	Contact surface	Gold	Gold
Dielectric strength	1 kV dc	1 kV dc	Bushing	-	PU / PA
NEXT (250 MHz)	48.7 dB	48.7 dB			
Attenuation (250 MHz)	0.1 dB				

Mechanical		Environmental	
Retention method	Push-Pull	Operating temperature	-10°C to +60°C
Life time (mating cycles)	> 1'000	Storage temperature	-40°C to +70°C
Wire size	0.5 - 0.65 mm (AWG 24 - AWG 22)	Flammability	UL94HB
Stranded wire	AWG 26/7 - 22/7	Protection class	IP 65

Ordering Information

Patch Cable

NKE6S-*	Standard lengths: 0.5, 1, 2, 3, 5, 10, 30 m
NKE6S-*-WOC	Equipped on one side with metal shell, standard lengths: 0.5, 1, 2, 3, 5, 10, 30 m
	Custom length in meter steps on request.

Receptacle

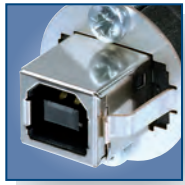
NE8FDY-C6	etherCON CAT6 with Nickel D-shell
NE8FDY-C6-B	etherCON CAT6 with Black Chrome D-shell

Accessories

Accessories see page 87



D-shape metal housing



USB type B



Push Pull locking



USB type B



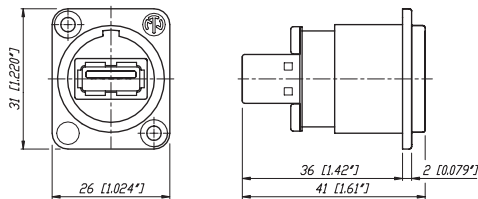
U S B R e c e p t a c l e



NAUSB-W

- USB 2.0 gender changer type A-B (B-A)
- Ideal for audio networking and integration of computerbased equipment into audio systems
- Lockable connection and water protection if mated with Neutrik USB cable NKUSB-*
- Optional screen to chassis grounding
- Reversible insert offering type A or B on front or rear end
- Universally accepted standard D-shape housing

NAUSB-W



U S B P a t c h C a b l e

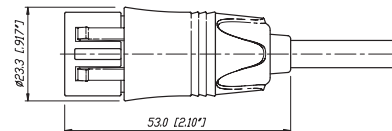
NEW



NKUSB-*

- USB 2.0 compliant - data rate up to 480 MBit/s
- Dust and water resistant sealing in combination with NAUSB-W*
- Push Pull mating design provides secure locking system if mated with NAUSB-W*
- Shielded connection - high noise immunity and EMI protection
- Ready made patch cables (1m, 3m and 5m) with removable rugged diecast cable carrier
- Mates with conventional USB receptacles if cable carrier is removed

NKUSB



Technical Data

Mechanical and Electrical		Receptacle	Patch Cable
Conform with USB 2.0 Standard		•	•
Material			
Shell	Zinc diecast (ZnAl4Cu1)	•	•
Shell plating	Nickel or black Chrome	•	Nickel
Insert		PBTP 15% GR	PVC
Contacts	Brass (CuZn39Pb3)	•	•
Contact finish	Gold	•	•
Environmental			
Operating temperature	-25°C to +85°C	•	•
Flammability	UL94 V-0	•	•

Ordering Information

Chassis

NAUSB-W	USB A – USB B Adapter (reversible), sealing ring, optional grounding, nickel housing
NAUSB-W-B	USB A – USB B Adapter (reversible), sealing ring, optional grounding, black housing

Patch Cable

NKUSB-*	USB 2.0 cable with overmolded flex relief and metal cable carrier, standard lengths: 1, 3, 5 m
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Accessories



DSS-*



SCM



SCDX



SCDP-*

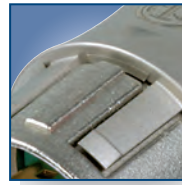
DSS-*	Lettering plate for D series, coloured plastic (*: 0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White)
SCM	Plastic sealing cover to protect the Firewire connectors against dust and moisture.
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP42 rated
NZP1RU	Panel1RU D-shape housing



D-shape metal housing



HDMI 1.3a receptacle



Push Pull locking



HDMI 1.3a



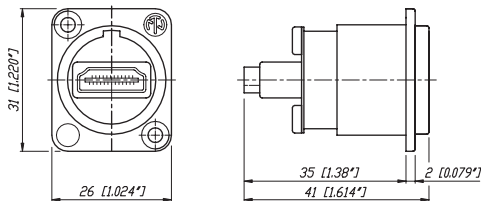
HDMI Receptacles



NAHDMI-W

- Audio / Video interface to transmit any digital TV and PC Video format including high-definition video (HDTV).
- HDMI 1.3a feedthrough adapter with 19-pole HDMI receptacle at both ends
- Optional screen to chassis grounding
- Universally accepted standard D-shape housing

NAHDMI-W



HDMI Patch Cable

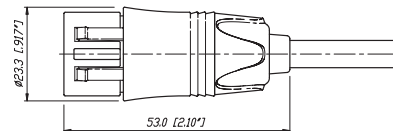
NEW



NKHDMI-*

- HDMI 1.3a - data rate up to 3.5 GBit/s
- Push Pull mating design provides secure locking system if mated with NAHDMI-W*
- Shielded connection - high noise immunity and EMI protection
- Ready made patch cables (1m, 3m and 5m) with removeable rugged diecast cable carrier
- Mates with conventional HDMI receptacles if cable carrier is removed
- Dust and water resistant sealing in combination with NAHDMI-W*

NKHDMI-*





D-shape metal housing



IEE 1394 receptacle

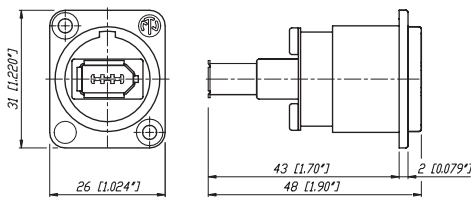
Firewire Receptacle



NA1394-6-W

- Ideal for audio networking and integration of digital equipment into audio systems
- Firewire feedthrough adapter with 6-pole IEEE 1394 receptacle at both ends
- Optional screen to chassis grounding
- Universally accepted standard D-shape housing

NA1394-6-W



Technical Data

Mechanical and Electrical		HDMI Receptacle	HDMI Patch Cable	Firewire
Conform with Standards		HDMI 1.3a	HDMI 1.3a	IEEE
Material				
Shell	Zinc diecast (ZnAl4Cu1)	•	•	•
Shellplating	Nickel or black Chrome	•	•	•
Insert		ABS	Nickel	PBTP 15% GR
		-	PVC	-
Contacts	Brass (CuZn39Pb3)	•	•	•
Contact finish	Gold	•	•	•
Environmental				
Operating temperature	-25°C to +85°C	•	•	•
Flammability	UL94 V-0	•	•	•

Ordering Information Firewire

NA1394-6-W	6-pole Firewire Adapter (IEEE 1394), sealing ring, optional grounding, nickel housing
NA1394-6-W-B	6-pole Firewire Adapter (IEEE 1394), sealing ring, optional grounding, black housing

Ordering Information HDMI

Chassis

NAHDMI-W	HDMI – HDMI Adapter, sealing ring, optional grounding, nickel housing
NAHDMI-W-B	HDMI – HDMI Adapter, sealing ring, optional grounding, black housing

Patch Cable

NKHDMI-*	HDMI 1.3a cable with overmolded flex relief and metal cable carrier, standard lengths: 1, 3, 5 m
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Accessories



DSS-*



SCM



SCDX



SCDP-*

DSS-*	Lettering plate for D series, coloured plastic
SCM	Plastic sealing cover to protect the Firewire connectors against dust and moisture.
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP42 rated
NZP1RU	Panel1RU D-shape housing

*: 0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White