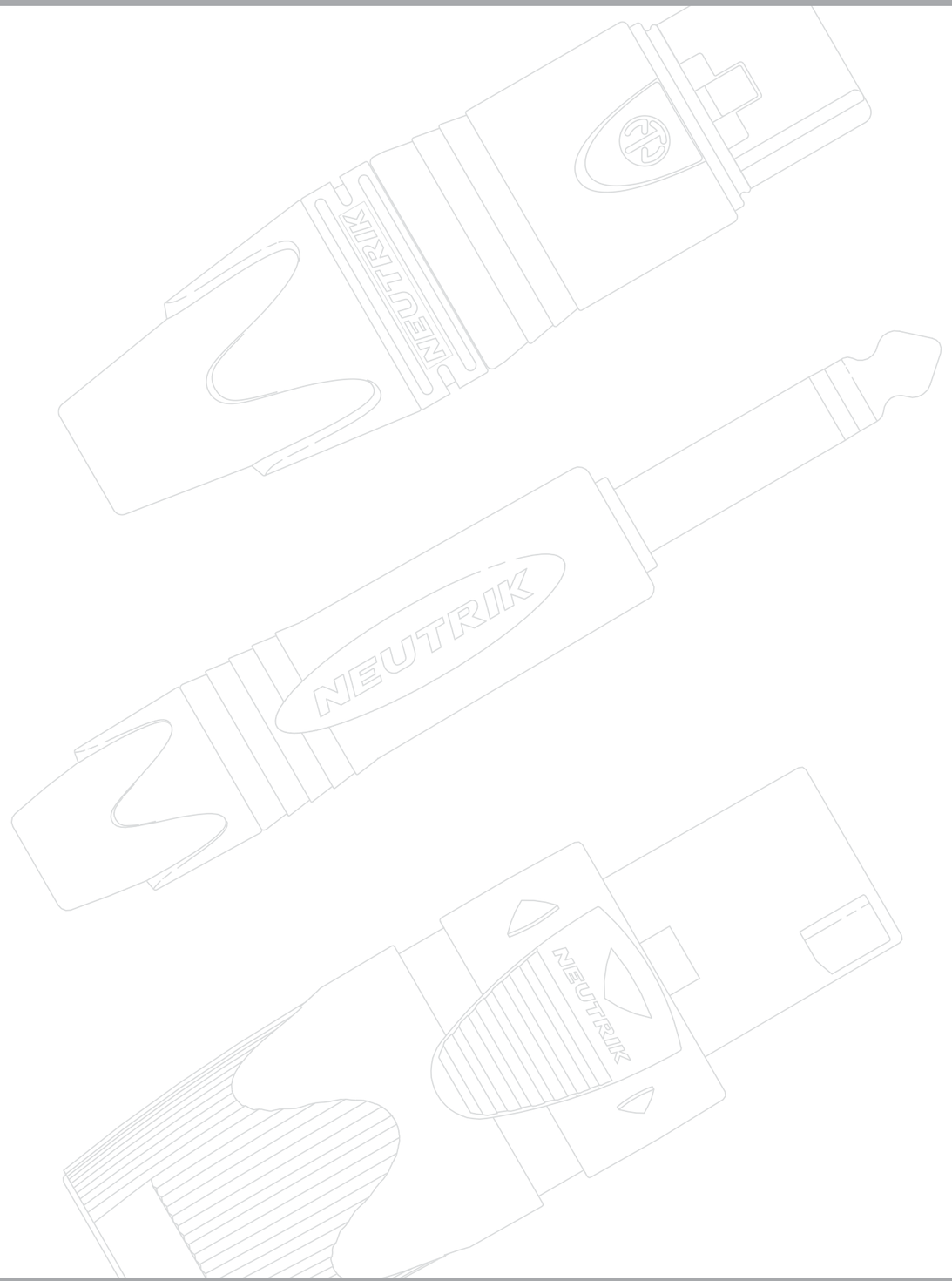
Product Guide | 2009 / 2010

NEUTRIK



The Neutrik® Line

About Neutrik®

Neutrik® is an international corporation with three decades of know-how and experience in the manufacture of innovative electrical and electronic interconnection products and systems. The company was founded in 1975 as a two man operation with the idea to creating innovative products utilizing the latest in mechanical and electronic know-how and creativity. Today we are the world leader in the design, manufacture and marketing of audio, coaxial, power and circular connectors. Our main priority is to be „one step ahead", i. e. to understand the future market needs before they become obvious and to accommodate demands before they occur.
From the beginning Neutrik has concentrated on the development of innovative audio connector products. Today Neutrik® leads the way in the professional audio market.
Our audio range includes XLR-connectors, plugs, jacks, speaker connectors, patch bays and fiber optic connection systems. Many patents granted, numerous patents pending and the many license agreements since our beginning in 1975, evidence Neutrik's innovation and creative achievements. No doubt, our customers have the confidence in having high quality products at an unsurpassed cost/performance ratio whenever they come across Neutrik®.

Neutrik's strength lies in it's ability to anticipate the needs of a dynamic marketplace, fast response through innovative designs, features and benefits based on customer feed-back as well application of state-of-the-art production technologies. Neutrik® is committed to excellence in innovation, total quality based on ISO 9001-2000, reliable customer relationship and effective marketing.

Neutrik Group

The Neutrik® Group consists of strategically placed subsidiaries in the United States of America, Great Britain, Switzerland, France, Japan, China and Germany. A network of exclusive distributors in more than 80 countries worldwide provides worldwide sales, technical support and distribution.

The corporate headquarters is located in Schaan in the Principality of Liechtenstein, where all operations such as management, R&D, logistics, manufacturing and finance are centered.

Customer Service

It is the Neutrik® philosophy to be customer-orientated and to stay in close contact with our customers all over the world, using an international network of subsidiaries, associated companies and distributors, Neutrik® takes care of consultation, sales and after-sales-service.

Innovation

Neutrik innovations are based on the sum of our long term experience.

The use of intelligent technologies, state-of-the-art materials and standardized processes are a tradition at Neutrik. Out of Neutrik`s visionary ideas unique products and solutions arise continuously which set new standards around the world, evidenced by our innumerable patents.

With Neutrik`s continuous efforts in research and development we will offer our customers added value with innovative developments in the future as well.

Continuity

In a fast moving world Neutrik focuses on sustainable concepts, long-term relationships and reliable promises.

Continuous innovation, brilliant inventions and consistent customer orientation has made us successful. Our products have set the standards for more than 30 years.

Today, as in the past, we are characterized by the ability to accept changes, to identify and realize customer demands and market trends. The future of our company is built on our successful past.

Neutrik remains the company that everyone knows and relies upon – Neutrik is more than a supplier – we are a reliable partner whose name stands for innovative solutions, superior quality and continuity.

Quality

Highly trained employees, state-of-the-art production facilities and standardized workflows ensures superior quality.

Every product Neutrik sendout to its customers fulfils the highest functional and reliability requirements. The use of high class materials, proven production processes incorporating continuous manufacturing and final tests guarantee a consistently high quality level.

Neutrik`s up-to-date management system with clearly defined workflows, rigorous quality control and continuous improvement of all processes is the basis for our customers satisfaction.

The interaction of reliability, innovation and superior quality results in tangible benefits for our customers.

Environmental – Compatibility

Neutrik is committed to the preservation of environmental resources and that our products are developed and manufactured in an environmentally acceptable manner considering health and safety excellence.

We comply with all relevant government laws and directions which relate to environmental protection. We support with all means available to us the preservation of natural resources by economizing the use of materials and by recycling waste. We develop products and processes which are safe, conserve energy and make use of materials which are at a minimum impact on the environment and, where possible, permit recycling.

All production methods are based on environmentally sound handling and the elimination of hazardous material. Some time before the amended EU Directive RoHS (Reduction of Hazardous Substances) came into force on July 1st 2006, Neutrik® already complied with these requirements laid down therein and stopped using lead in the soldering process at the end of 2004. In addition Neutrik® conforms to the following EU Directives and regulations:

EU 76/769/EEC
EU 2000/53/EC
EU 2002/95/EC (RoHS)
EU 2002/96/EC (WEEE)
Sony Technical Standard SS-00259 (Sony Green Partner)

Neutrik® Part Number Guide

NC3FAH1-B-0-D

Packaging:	**D**	Cable connector: Bulk packed
Assembly:	**D**	Chassis connector: Disassembled Push latch
Retention:	**w/o**	Latch Lock
	-0	Retention Spring
Shell:	**B**	Black shell, gold contacts
	BAG	Black shell, silver contacts
Grounding:	**0**	Separate ground contact connected to shell, male only
	1	Pin 1 & Panel & Shell connected, no separate ground contact
	2	Separate ground contact connected to shell & panel, separate Pin 1
	E	Additional ground contacts
	w/o number	No ground / Shell contact (except 4 / 5 pole), female only
Termination:	**H**	Horizontal PCB mount
	HL	Laterial left PCB mount
	HR	Laterial right PCB mount
	L	Solder Cups
	V	Verticale PCB mount
	Y	IDC for wires (no ground)
	M3	Mounting holes with M3 thread
	M25	Mounting holes with M2.5 thread
	-	Not applicable
Series:	**A, AA, B, BA, D, DL, DLX, MPR, P, PX, RX, X, XX**	
Gender:	**F**	Female
	M	Male
Number of Contacts:	**3, 4, 5, 6, 7, 8, 12**	
Connector Type:	**A**	Adapter
	AC	powerCON
	B	BNC
	C	XLR
	D	dummyPLUG
	E	RJ45
	F	RCA / CINCH
	J (MJ, RJ, SJ)	Jack
	K	Cable Assemblies
	L	Loudspeaker
	M	Modules
	O	Fiber Connector
	P	Plugs
	PP	Patch Panel
	R	Circular Connector
	T	Transformer

Definitions, Abbreviations & Useful Information see page 151.

XLR Connectors

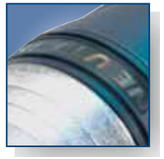
Content Page

XLR Connectors

Introduction

Neutrik XLR connectors are the most well known series of products manufactured by Neutrik, and have provided the professional audio industry a simple, yet striking, concept in connector features. We introduced our first XLR product more than 30 years ago. Today it is the accepted standard worldwide.
XLR connectors are part of almost every aspect of professional audio; as a microphone connector, in lighting systems, and found in almost any piece of sound equipment in the entertainment industry. The outstanding success of our XLR products is Neutrik's blend of innovation with the highest quality performance.

Ergonomic latch design



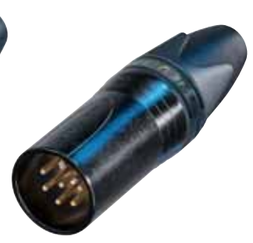
Neutrik hologram

Inside view

Circumferential ground shield contact

XX Series

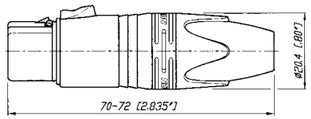
NC3FXX



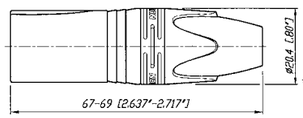
NC6MXX-B

- The next generation of the worldwide accepted standard
- Unique cage type female contact - increases conductivity
- Female contact with “solder stop” for ease soldering
- Male connector without locking “window” - more robust housing, increases durability
- Improved chuck type strain relief - increases retention force and makes assembly easier and faster
- New ground contact - excellent contact integrity between chassis and cable connector
- Customized branding using translucent ring
- Sleek and ergonomic design - valuable and handy
- Unique hologram – guarantees genuineness and protects against counterfeits
- Internal thread on shell is well protected against any damage.

NC*FXX



NC*MXX



* ... 3 - 7 contacts

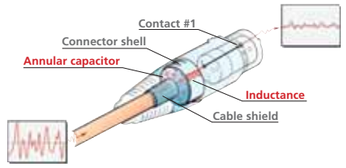
EMC-XLR Series

NC3FXX-EMC

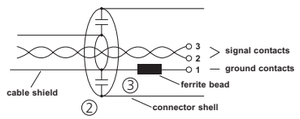
NC3MXX-EMC

- 3-pole male / female XLR cable connector with integrated capacitive shield to shell connection to avoid RF-interference and LF-noise
- 360° shield contact on female connector ensures best possible shielding and chassis contact
- Patent

①



① Design guarantees a continuous RF-shield connection but avoids ground loops (no LF-shield connection)
② Circular capacitor enables low-inductive shield connection to connector housing
③ Cable shield - PIN 1 connection includes EMI suppression bead (blocks high frequencies)



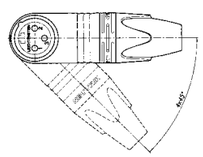
Right angle male connector

High temperatur resistant insulator

Velour chromium housing

RX Series

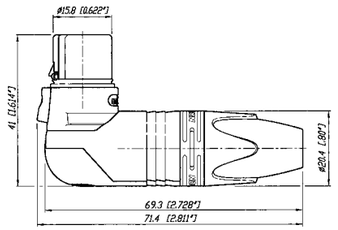
NC3FRX-BAG



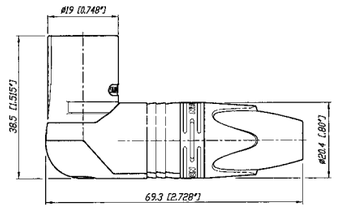
Outlet position

- Right angle version of the XX Series - only 20 mm wide
- Extra slim right-angle connector
- Neutrik chuck type strain relief
- 5 selectable cable outlet positions

NC*FRX



NC*MRX



* ... 3 - 7 contacts

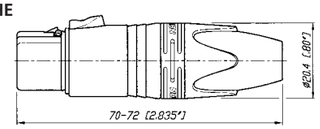
XX-HE Series

NC3FXX-HE

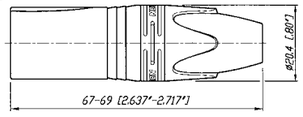
NC3MXX-HE

- Exclusive "High End" version of standard XX Series
- Premium velour chromium plating provides soft satin finish
- Extra high temperature resistant insulator material rated to 275°C (527°F)
- Machined female contacts standard
- Insert is dark grey to distinguish it from standard XX-Series insulators
- Flammability UL 94V-0

NC3FXX-HE



NC3MXX-HE

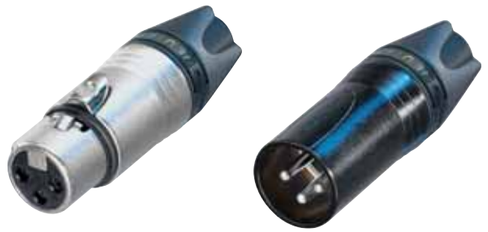


Large cable outlet

Ergonomic latch design

Neutrik hologram

XX-14 Series



NC3FXX-14 NC3MXX-14-BAG

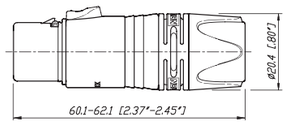
- Special version of the XX Series XLR cable connector for large diameter cables
- Incorporates all the features of the XX product series
- Rear boot features large opening for use with cable O.D. of up to 8.5 mm
- Bulk packed; must be ordered in multiples of 100

XX Crimp Series

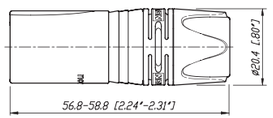
NC3FXX-BAG-HA NC3MXX-HA

- 3 pin XX Series with crimp contacts
- Accommodates wire size AWG 24 - 22 or 0.22 – 0.34 mm²
- Utilize standard B-type crimp tool (acc. IEC 60352-2)
- Absolute leadfree and solderless connection:
  - RoHs compliance
  - health and eco-friendly
- Fast and easy assembly
- Gas-tight connection offers a constant contact resistance
- Ideal solution for field and on-site termination

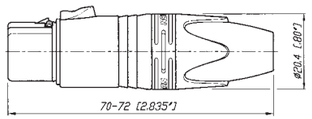
NC3FXX-14



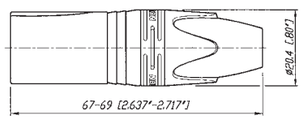
NC3MXX-14



NC3FXX-HA



NC3MXX-HA



Crystal stones

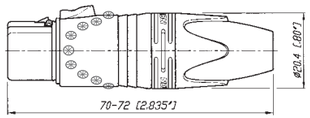
convertCON male - female

crystalCON

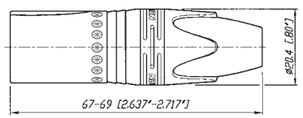
NC3FXX-B-CRYSTAL NC3MXX-B-CRYSTAL

- 3 pole XLR XX-Series embellished with CRYSTALLIZED™ – *Swarovski Elements*
- Exclusively with gold plated contacts, and black chrome housing
- Fancy, noble, valuable, attractive package - an eye-catcher
- With all benefits of the XLR XX-Series

NC3FXX-B-CRYSTAL



NC3MXX-B-CRYSTAL



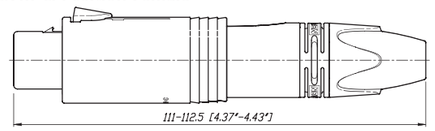
convertCON

NC3FM-C-B NC3FM-C

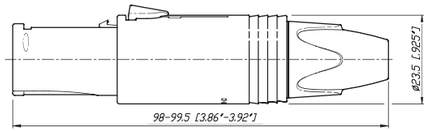
- World's first Unisex XLR Cable Connector
- 3 pole male and female cable connector in one housing
- Easy selectable gender - converted by sliding housing back and forth
- Substitute adapters, ideal as an emergency kit
- Exclusively with gold plated contacts
- With all benefits of the XLR XX-Series

Convert male - female and vice versa

NC3FM-C: Position Female



NC3FM-C: Position Male



Rubber sealing protection

Neutrik original design

Female locking

Male metal locking window

XX-HD Series

NEW

NC3FXX-HD-D

NC3MXX-HD-B-D

- "Heavy duty" cable connector for outdoor use
- Rubber sealing jacket protects against water ingress and mechanical shock
- Dust and water protected according IP 67 in mated condition
- NC3FXX-HD mates with NC3MPR-HD chassis connector and NC3MXX-HD cable connector
- Gold contacts
- Chuck type strain relief system for secure clamping of cables
- Rugged zinc diecast shell, longlasting and dependable

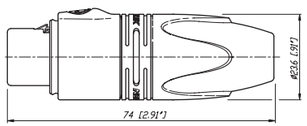
X Series

NC3FX

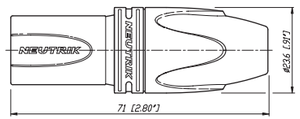
NC3MX + BSX-5

- The XLR connector standard worldwide
- Available in 3 - 7 pin configurations including 6 pin Switchcraft® configuration
- Assembly is quick and easy – no screws or special tools required
- Unique Neutrik chuck type internal strain relief
- Female shell has rubber ring for secure mating to male XLR or microphone
- Sleek profile and compact design
- Rugged diecast shell
- UL Recognized components

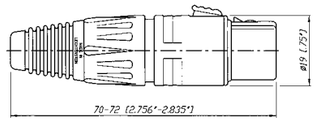
NC3FXX-HD-D



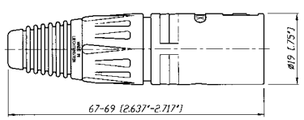
NC3MXX-HD-D



NC*FX

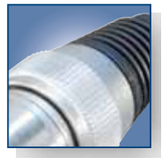


NC*MX



* ... 3 - 7 contacts

Rubber sealing protection



Metal bushing

Coding ring

X-HD Series

NC5FX-HD

NC4MX-HD

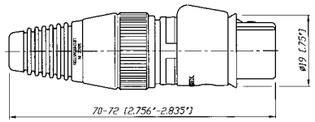
- "Heavy duty" cable connectors for outdoor use
- All metal design, male stainless steel
- NC*FX-HD mates with NC*MPR-HD chassis connector and NC*MX-HD
- Dust and water protected according IP 65 in mated condition
- Available in 3 - 5 pin configuration
- Metal bushing including O-ring

XCC Series

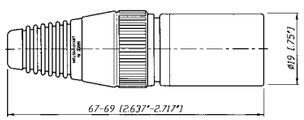
NC3FXCC

- Coaxial ground spring and hex crimp ferrule at cable entrance allows continuous (360°) ground connection to the shell which is essential when transmitting low level audio signals
- Includes Zebra coding ring to indicate digital AES signals
- Ground contact uses 6.5mm (.255") size "E" hex crimp (IEC 60803). Use part #HX-R-BNC with DIE-R-BNC-PT

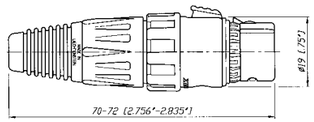
NC*FX-HD



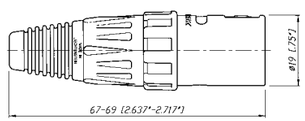
NC*MX-HD



NC3FXCC



NC3MXCC



* ... 3 - 5 contacts

Switch activating ring

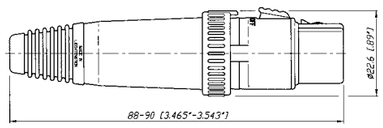
Locking ring

FXS Series

NC3FXS

- Available exclusively in a 3 pin female configuration
- Features a noiseless ON/OFF switch which shorts pins 2 and 3 together muting the signal voltage between conductors
- For use with a microphone that does not have its own On/Off switch
- Rugged zinc diecast shell, long lasting and durable
- Chuck type strain relief system for secure clamping of cables
- Boot with rubber gland gives high protection against bending stresses

NC3FXS

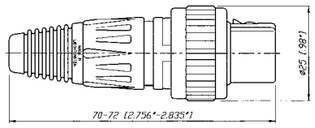


FX-SPEC Series

NC3FX-SPEC

- Available in a 3 pin female standard configuration with Gold plated contacts
- Features a locking ring which is secured with a M2.5 screw and 1.27mm allen wrench
- Offers the highest security protection for your microphones
- Protects against accidental disconnects and theft
- Black chrome housing and locking ring
- Eliminates movements and noises

NC3FX-SPEC



Specification		XX & XX-14 & CRYSTAL	EMC Series	XX-HD Series	XX-HE Series	RX Series	XX Crimp Series	convert-CON Series
Electrical								
Number of contacts		3 - 7 [1]	3	3	3	3 - 7	3	3
Contact resistance	≤ 3 mΩ	●	●	●	●	●	●	●
Insulation resistance - initial:	> 2 GΩ	●	●	●	●	●	●	●
- after damp heat test:	> 1 GΩ	●	●	●	●	●	●	●
Dielectric strength	1.5 kV dc	●	●	●	●	●	●	●
Cable shield-shell connection	choosable	●	-	●	●	●	●	●
	determined	-	capacitive	-	-	-	-	-
Shielding effectiveness	> 55 dB @ 1.3 GHz	-	●	-	-	-	-	-
Lossy ferrite bead on PIN 1		-	●	-	-	-	-	-
Rated current per contact @ 35°C								
3 pole:	16 A	●	5 A	●	●	●	1 A	●
4 pole:	10 A	●	-	-	-	●	-	-
5, 6 pole:	7.5 A	●	-	-	-	●	-	-
7 pole:	5 A	●	-	-	-	●	-	-
Capacitance between contacts								
3 pole:	≤ 4 pF	●	●	●	●	●	●	●
4, 5, 6 pole:	≤ 7 pF	●	-	-	-	●	-	-
7 pole:	≤ 9 pF	●	-	-	-	●	-	-
Rated Voltage	50 V ac	●	●	●	●	●	●	●
Mechanical								
Lifetime > 1`000 cycles		●	●	●	●	●	●	●
Insertion / withdrawal force ≤ 20 N		●	●	●	●	●	●	●
Cable O.D. range	3.5 - 8.0 mm	● [2]	●	●	●	●	●	●
Max. wire size 3 pole:	2.5 mm² / AWG 14	●	AWG 20	●	●	●	-	●
4 pole:	1.5 mm² / AWG 16	●	-	●	-	●	-	-
5, 6, 7 pole:	1.0 mm² / AWG 18	●	-	●	-	●	-	-
Crimp tool:	6.5 mm Hex die (size "E" acc. to IEC 60803)	-	-	-	-	-	●	-
Crimp XX:	0.22 - 0.34 mm² / AWG 24 - 22	-	-	-	-	-	●	
Material								
Shell	Zinc diecast (ZnAl4Cu1)	●	●	-	●	●	●	●
	(gal Ni or black Cr)	●	gal Ni	-	velour Cr	●	●	●
	Stainless steel	-	-	-	-	-	-	-
Insert	Polyamide PA 6.6 30% GR	●	●	●	●	●	●	●
Contacts - female 3 pole:	Bronze (CuSn8)	●	●	●	●	●	●	●
- female 4 - 7 pole & male:	Brass (CuZn39Pb3)	●	●	●	●	●	-	-
Contact surface Silver	gal 2 µm Ag	●	Au	Au	●	●	●	●
or Gold	gal 0.2 µm Au hard alloy over 2 µm Ni							
Latch lock St3K32 (latch) / Ck 67 (spring)		-	-	-	-	-	-	-
	Zinc diecast (ZnAl4Cu1) / CK67 (Spring)	●	●	●	●	●	●	●
Strain-relief clamp	POM	●	●	●	●	●	●	●
Bushing	PA / PU	●	●	●	●	●	●	●
Circumferential ground spring	Bronze (CuSn6), Ni plated	-	●	-	-	-	-	-
Crimp ferrule	Brass (CuZn39Pb3), Ni plated	-	-	-	-	-	-	-
Coding ring	Polyamide PA 6 15% GR	-	-	-	-	-	-	-
Sealing jacket	EPDM	-	-	●	-	-	-	-
Securing ring	Brass (CuZn39Pb3)	-	-	-	-	-	-	-
Environmental								
Operating temperature	-30°C to +80°C	●	●	●	●	●	●	●
Flammability	UL 94 HB	●	●	●	V-0	●	●	●
Protection class	IP 40	●	●	IP 67	●	●	●	●
Solderability complies with IEC 68-2-20		●	●	●	●	●	●	●
Manufacturing Standard IEC 61076-2-103		●	●	●	●	●	●	●

XX-14, CRYSTAL: [1] ... 3 pole [2] ... XX-14: Cable O.D. max. 8.5 mm

Specification		X Series	XCC Series	X-HD Series	FXS Series	FX-SPEC Series
Electrical						
Number of contacts		3 - 7	3	3 - 5	3	3
Contact resistance	≤ 3 mΩ	●	●	●	●	●
Insulation resistance - initial:	> 2 GΩ	●	●	●	●	●
- after damp heat test:	> 1 GΩ	●	●	●	●	●
Dielectric strength	1500 V dc	●	●	●	●	●
Cable shield-shell connection	choosable	●	-	●	-	●
	determined	-	crimp	-	-	-
Shielding effectiveness	> 55 dB @ 1.3 GHz	-	●	-	-	-
Lossy ferrite bead on PIN 1		-	-	-	-	-
Rated current per contact @ 35°C						
3 pole:	16 A	●	●	●	●	●
4 pole:	10 A	●	-	●	-	-
5, 6 pole:	7.5 A	●	-	●	-	-
7 pole:	5 A	●	-	-	-	-
Capacitance between contacts						
3 pole:	≤ 4 pF	●	●	●	●	●
4, 5, 6 pole:	≤ 7 pF	●	-	●	-	-
7 pole:	≤ 9 pF	●	-	-	-	-
Rated Voltage	50 V ac	●	●	●	●	●
Mechanical						
Lifetime > 1`000 cycles		●	●	●	●	●
Insertion / withdrawal force ≤ 20 N		●	●	●	●	●
Cable O.D. range	3.5 - 8.0 mm	●	5.4 - 6.2 mm	●	3.5 - 7.0 mm	●
Max. wire size 3 pole:	2.5 mm² / AWG 14	●	●	●	●	●
4 pole:	1.5 mm² / AWG 16	●	-	●	-	●
5, 6, 7 pole:	1.0 mm² / AWG 18	●	-	●	-	-
Crimp tool:	6.5 mm Hex die (size "E" acc. to IEC 60803)	-	●	-	-	-
Crimp XX:	0.22 - 0.34 mm² / AWG 24 - 22	-	-	-	-	-
Material						
Shell	Zinc diecast (ZnAl4Cu1)	●	●	-	●	●
	(gal Ni or black Cr)	-	●	●	●	●
	Stainless steel	-	-	●	-	-
Insert	Polyamide PA 6.6 30% GR	●	●	●	●	●
Contacts - female 3 pole:	Bronze (CuSn8)	●	●	●	●	●
- female 4 - 7 pole & male:	Brass (CuZn39Pb3)	●	●	●	-	-
Contact surface Silver	gal 2 µm Ag	●	●	Au	●	Au
or Gold	gal 0.2 µm Au hard alloy over 2 µm Ni					
Latch lock St3K32 (latch) / Ck 67 (spring)		●	●	●	●	●
	Zinc diecast (ZnAl4Cu1)	-	-	-	-	-
Strain-relief clamp	POM	●	●	●	●	●
Bushing	PA / PU	●	●	PU	PU	●
Circumferential ground spring	Bronze (CuSn6), Ni plated	-	●	-	-	-
Crimp ferrule	Brass (CuZn39Pb3), Ni plated	-	●	-	-	-
Coding ring	Polyamide PA 6 15% GR	-	●	-	-	-
Sealing jacket	EPDM	-	-	●	-	-
Securing ring	Brass (CuZn39Pb3)	-	-	-	-	●
Environmental						
Operating temperature	-30°C to +80°C	●	●	●	●	●
Flammability	UL 94 HB	●	●	●	●	●
Protection class	IP 40	●	●	IP 65	●	●
Solderability complies with IEC 68-2-20		●	●	●	●	●
Manufacturing Standard IEC 61076-2-103		●	●	●	●	●

Ordering Information for Cable Connectors

Female	Male	Shell	Contact - plating	3 pole	4 pole	5 pole	6 pole	7 pole
XX Series								
NC*FXX	NC*MXX	Nickel	Silver	●	●	●	●	●
NC*FXX-B	NC*MXX-B	Black Cr	Gold	●	●	●	●	●
NC*FXX-BAG	NC*MXX-BAG	Black Cr	Silver	●	●	●	●	●
NC3FXX-**-D[1]	NC3MXX-**-D[1]	Nickel / Black Cr	Silver / Gold	●	-	-	-	-
NC6FSXX[2]	NC6MSXX[2]	Nickel	Silver	-	-	-	●	-
NC6FSXX-B[2]	NC6MSXX-B[2]	Black Cr	Gold	-	-	-	●	-
NC6FSXX-BAG[2]	NC6MSXX-BAG[2]	Black Cr	Silver	-	-	-	●	-
XX-EMC Series								
NC3FXX-EMC	NC3MXX-EMC	Nickel	Gold	●	-	-	-	-
NC3FXX-EMC-B	-	Black Cr	Gold	●	-	-	-	-
RX Series								
NC*FRX	NC*MRX	Nickel	Silver	●	●	●	●	●
NC*FRX-B	NC*MRX-B	Black Cr	Gold	●	●	●	●	●
NC*FRX-BAG	NC*MRX-BAG	Black Cr	Silver	●	●	●	●	●
XX-HE Series								
NC3FXX-HE	NC3MXX-HE	Velour Chromium	Gold	●	-	-	-	-
XX-14 Series								
NC3FXX-14-D	NC3MXX-14-D	Nickel	Silver	●	-	-	-	-
NC3FXX-14-B-D	NC3MXX-14-B-D	Black Cr	Gold	●	-	-	-	-
NC3FXX-14-BAG-D	NC3MXX-14-BAG-D	Black Cr	Silver	●	-	-	-	-
XX Crimp Series								
NC3FXX-HA	NC3MXX-HA	Nickel	Gold	●	-	-	-	-
NC3FXX-HA-BAG	NC3MXX-HA-BAG	Black Cr	Silver	●	-	-	-	-
convertCON Series								
	NC3FM-C	Nickel	Gold	●	-	-	-	-
	NC3FM-C-B	Black Cr	Gold	●	-	-	-	-
Crystal XLR								
NC3FXX-B-CRYSTAL	NC3MXX-B-CRYSTAL	Black Cr	Gold	●	-	-	-	-
XX-HD Series								
NC3FXX-HD-D	NC3MXX-HD-D	Nickel	Gold	●	-	-	-	-
NC3FXX-HD-B-D	NC3MXX-HD-B-D	Metal Black	Gold	●	-	-	-	-

Accessories and Assembly Tools

Detailed information on page 31 and 36.

* ..... Number of Contacts
** ..... Nickel or Black
–D[1] ..... Bulk packed, to be ordered in multiples of 100 pcs.
[2] ..... Switchcraft Equivalent

Ordering Information for Cable Connectors

Female	Male	Shell	Contact - plating	3 pole	4 pole	5 pole	6 pole	7 pole
X Series								
NC*FX	NC*MX	Nickel	Silver	●	●	●	●	●
NC*FX-B	NC*MX-B	Black Cr	Gold	●	●	●	●	●
NC*FX-BAG	NC*MX-BAG	Black Cr	Silver	●	●	●	●	●
NC3FX-**-D[1]	NC3MX-**-D[1]	Nickel / Black Cr	Silver / Gold	●	-	-	-	-
NC6FSX[2]	NC6MSX[2]	Nickel	Silver	-	-	-	●	-
NC6FSX-B[2]	NC6MSX-B[2]	Black Cr	Gold	-	-	-	●	-
NC6FSX-BAG[2]	NC6MSX-BAG[2]	Black Cr	Silver	-	-	-	●	-
X-HD Series								
NC*FX-HD	NC*MX-HD	Nickel	Gold	●	●	●	-	-
NC3FX-HD-B	NC3MX-HD-B	Metal Black	Gold	●	-	-	-	-
XCC Series								
NC3FXCC	NC3MXCC	Nickel	Gold	●	-	-	-	-
FXS Series								
NC3FXS	-	Nickel	Gold	●	-	-	-	-
NC3FXS-B	-	Black Cr	Gold	●	-	-	-	-
FX-SPEC Series								
NC3FX-SPEC	-	Black Cr	Gold	●	-	-	-	-

Accessories and Assembly Tools

Detailed information on page 31 and 36.

* ..... Number of Contacts ** ..... Nickel or Black –D[1] .... Bulk packed, to be ordered in multiples of 100 pcs. [2] ..... Switchcraft Equivalent

Colored coding ring

Lateral right PCB mount

Locking release tab

Ground contact

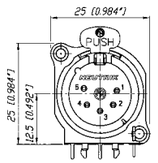
A Series

NC3FAH-0

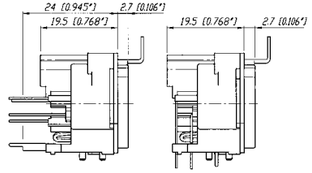
NC3MAV

- Smallest XLR receptacles, highest packing density
- Plastic housing, steel retention lug
- Various grounding options
- "Tulip"type female contact design with high contact pressure
- Selective gold plated contact and PCB termination area for best conductivity and solderability
- Plastic housing flammability UL 94V-0

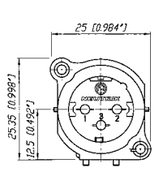
NC5FAV



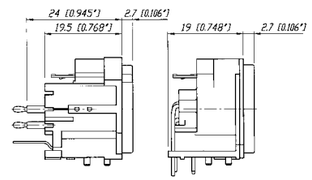
NC5FAH



NC3MAV-0



NC5MAH



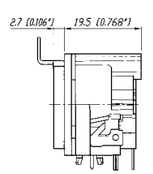
AA Series

NC3FAAV2

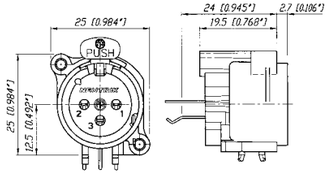
NC3MAAH-1

- Front panel cutout and PCB layout 100% compatible to the A Series
- Most cost-effective series
- "Tulip"type female contact design with high contact pressure
- Selective gold plated contact and PCB termination area for best conductivity and solderability
- Plastic housing flammability UL 94 HB

NC3FAAH



NC3FAAV-0



Grounding Options (A / AA / B / BA Series):

Female:
1 ... Pin 1 & Panel & Shell connected, no separate ground contact
2 ... Separate ground contact connected to shell & panel, separate Pin 1
w/o number: No ground / Shell contact (except 4 / 5 pole)

Male:
w/o number: Separate ground contact connected to shell & panel, separate Pin 1
0 ... Separate ground contact, connected to shell, separate Pin 1
1 ... Pin 1 & Panel & Shell connected, no separate ground contact

Circumferential metal ring

Front panel grounding

Tear drop contact design

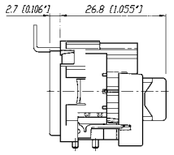
B Series

NC3FBV

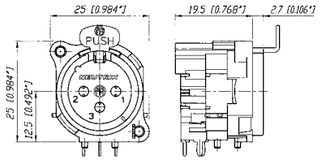
NC3MBV

- The B Series XLR receptable offers the same features as our A Series product line with the added feature of a metal ring
- Metal ring on shell (nickel or black) features complete EMC and RF protection
- Fastening with Nickel B-Screw-1-8
- Female versions available latchless
- Rear mount only

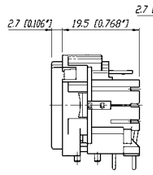
NC3FBY



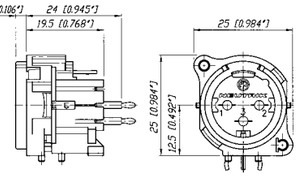
NC3FBH1



NC3MBH



NC3MBV



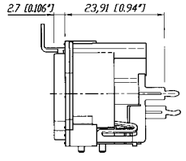
BA Series

NC3FBAV2

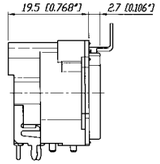
NC3MBAH

- Economical version of B-Series product with modified metal flange
- Fastening with A-Screw-1-8
- Available in 3, 4 and 5 pole version with nickel metal ring
- Rear mount only

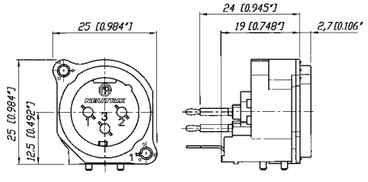
NC3FBAV



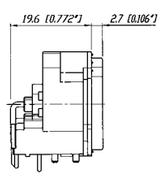
NC3FBAH



NC3MBAV



NC3MBAH



Incorporated switch

Insert removable

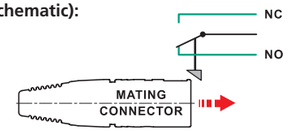
A/B Series 5-pole switch

NC5FAV-SW

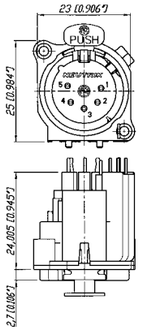
NC5MAV-SW

- A and B Series 5 pole connector with additional switch
- Normally open, normally closed (NO - NC) contact
- Switch activated by mating XLR cable connector
- Available in 5 pole, 3 or 4 pole on request

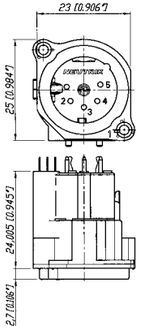
Inserting (Schematic):



NC5FAV-SW



NC5MBV-SW



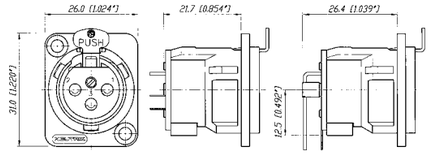
D Series

NC3FD-H

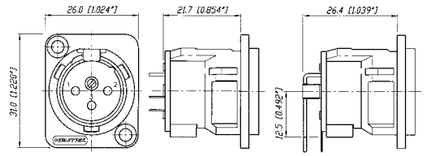
NC3MD-V

- "D" Shape metal shell
- Optimal RF protection using 3 shield contacts
- Horizontal and vertical PCB mount with separate ground contact
- Mounting holes with M3 threads available
- 2 piece connector, insert is removable from shell
- Front locked / unlocked insert
- Special version with screw termination

NC3FD-V / NC3FD-H



NC3MD-V / NC3MD-H



Locking release tab

Horizontal PCB mount

Ground shielding

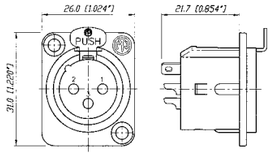
DL Series

NC3FD-L-1

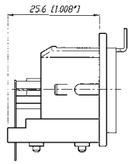
NC4MDM3-H

- Unified "D" metal shell
- Solder cups on 3 - 7 pole version
- Additional PCB mount on 4 and 5 pole
- Front and rear mountable

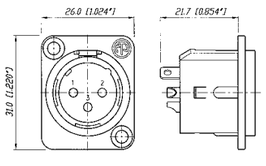
NC3FD-L-1



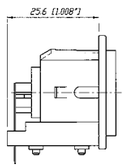
NC*FDM3-H



NC3MD-L-1



NC*MDM3-H



* ... 3 - 5 contacts

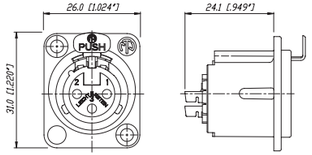
DLX Series

NC3FD-LX-HE

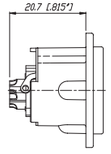
NC5MD-LX

- Next generation of the popular DL Series with greater functionality
- All metal housing works in combination with a new duplex ground contact yielding the best RF protection and ground conductivity in a chassis mount XLR
- Male connector's retention bar replaces plastic design with all metal version
- Unique cage type female contacts on 3 pole version for increased conductivity
- Machined male and female contacts on four to seven pin versions
- D-style housing provides installation compatibility with industry standard D mounting dimensions

NC3FD-LX



NC*MD-LX



* ... 3 - 7 contacts

Crimp type contact

Circumferential ground spring

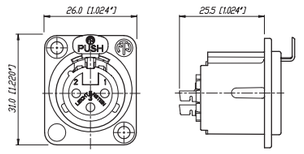
DLX Crimp Series

NC3FD-LX-HA

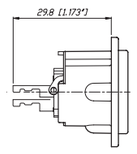
NC3MD-LX-BAG-HA

- 3 pole DLX Series with crimp contacts
- Accommodates wire size AWG 24 - 22 or 0.22 – 0.34 mm²
- Utilize standard B-type crimp tool (acc. IEC 60352-2)
- Absolute leadfree and solderless connection:
  - RoHs compliance
  - health and eco-friendly
- Fast and easy assembly
- Gas-tight connection offers a constant contact resistance
- Ideal solution for field and on-site termination

NC3FD-LX-HA



NC3MD-LX-HA



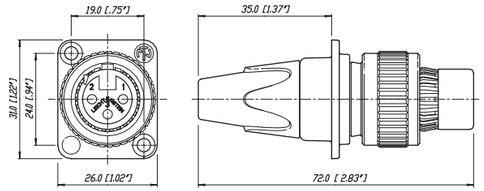
EMC Series

NC3FDX-EMC-SPEC

- 3 pole female XLR chassis connector with integrated capacitive shield to shell connection to avoid RF-interference and LF-noise
- 360° shield contact ensures best possible shielding and chassis contact
- D flange chassis for panel mount applications
- Includes the locking nut of the NC3FX-SPEC for secure fastening of a gooseneck for instance
- Special flange for large openings available
- Patent pending

Detailed information of RF-shielding see page 12 - EMC cable connector.

NC3FDX-EMC-SPEC



Sealing Gasket

Through hole fastening

MPR-HD Series

NC3MPR-HD

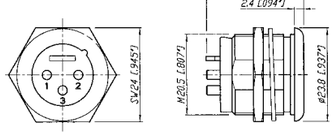
NC5MPR-HD

- IP 65 - in combination with NC*FX-HD cable connectors
- Perfect for outdoor applications
- Sealing gasket for water tight panel mount
- Gold plated contacts

NC5MPR-HD

NC5FX-HD

NC3MPR-HD



* ... 3 - 5 contacts

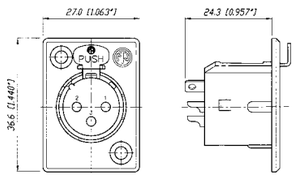
P Series

NC3FP-1

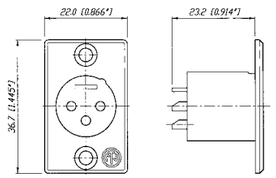
NC6MP-B

- Male and female available in 3-6 pin configurations; 7 pin versions available in female only
- Smallest available hard wiring receptacles with large solder cups
- Male and female use different mounting hole dimensions and do not fit in same mounting hole
- Front mountable only
- One piece version – insert is NOT removable from shell
- Short female receptacle
- Compatible with Switchcraft® DxM, DxF; Cannon XLRx31, XLRx32
- 6 pole version available with Switchcraft contact arrangement

NC3FP-1



NC3MP



Front end design

Solder termination

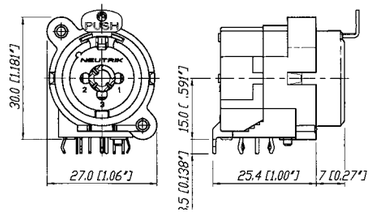
Combo Series

NCJ9FI-V

NCJ10FI-S

- Combined XLR receptacle and 1/4" phone jack
- Attractive "front end" design
- Saves rack space by combining 2 connectors in one housing
- Horizontal or vertical PCB mounting or hard wire soldering
- Fully normalled
- Stereo or mono version
- Very low conductor capacitance, therefore suitable for digital audio
- Fastening: Self-tapping Plastite® screws with thread 2.9 x 1.06 and tri-rondular configuration (A screw)

NCJ10FI-H



XLR receptacle or 1/4" phone jack

Horizontal PCB mount

Vertical PCB mount

Hologram

Combo A Series

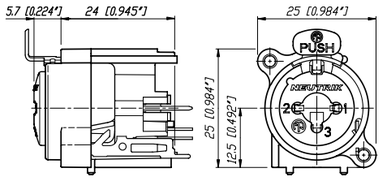
NCJ6FA-V

NCJ6FA-H-0

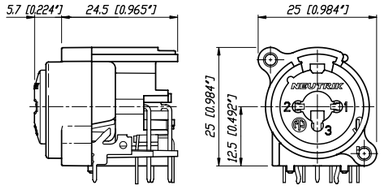
NCJ6FA-V-0

- Combined 3 pole XLR receptacle and 1/4" phone jack for balanced mic and line or instrument inputs in one XLR housing
- Dramatic space saving - 15% over the predecessor Combo
- Two connectors in one housing - substantial cost, material and labour saving
- Horizontal and vertical PCB mount available
- 3 pole female XLR combined with stereo TRS jack
- Very low conductor capacitance - ideal for digital audio
- Front panel cut-out compatible with Neutrik XLR A Series
- Branded with unique hologram - guarantees genuine and authentic Neutrik product

NCJ6FA-V



NCJ6FA-H



Colour Coded Accessories

Part No.	Description	Black 0	Brown 1	Red 2	Orange 3	Yellow 4	Green 5	Blue 6	Violet 7	Grey 8	White 9
XLR Cable Connectors											
BSX-*	Coloured bushing for X Series										
BXX-*	Coloured bushing for XX Series										
XCR-*	Coloured coding ring for X Series										
XXR-*	Coloured coding ring for XX Series										
XLR Chassis Connectors											
ACRF-*	Coloured ring for female 4 + 5 pole A Series and 3 pole BA Series										
ACRM-*	Coloured ring for male 4 + 5 pole A Series and 3 pole BA Series										
DSS-*	Lettering plate for D Series										

Accessories

XLR Cable Connectors

BXX-CR

XCCR

XXCR Example

BXX-CR	Bushing with translucent coding ring
BXX-14	Large bushing set (cable O.D. 8.5 mm)
XCCR	Coding ring for X Series digital signals
XXCR	Translucent coding ring for XX Series (Label Dimensions: 57.9 mm x 6.35 mm - 2.25" W x 0.25" H)

XLR Chassis Connectors

A Screw

B Screw

DBA

FDR1

MFD

Example

NDF

NDM

SCF

SCM

A-Screw-1-8	Plastite® screw 2.9 x 8
B-Screw-1-8	TAPTITE® screw 2.5 x 8
DBA	Dummy-plate for D Series panel cut outs
FDR1	Round panel mounting flange for NC3FDX-EMC-SPEC
HA-3FXX	Set of 50 female spare contacts for crimp XLR
HA-3MXX	Set of 50 male spare contacts for crimp XLR
MFD	M3 mounting frame for D-size chassis
NDF	dummyPLUG for female XLR chassis connector
NDM	dummyPLUG for male XLR chassis connectors
SC*	Rubber sealing cap for female and male XLR receptacles

SCDR

Example

SCDX

Example

SFAV

Example

SCDP-*

NZP1RU	Panel 1RU D-shape housing
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDR	Rear end protection cover for D-size chassis connectors
SCDX	Hinged cover seals D-size chassis connectors, IP42 rated
SFAV	Rubber frame for A / B Series to mount between front plate and rear vertical print

Specification		A Series	AA Series	B Series	BA Series	D Series	DL / DLX Series	DLX Crimp
Electrical								
Number of contacts		3 - 5	3	3	3 - 5	3	3 - 7	3
Contact resistance	≤ 6 mΩ	●	●	●	●	●	●	●
Insulation resistance - initial:	> 2 GΩ	●	●	●	●	●	●	●
- after damp heat test:	> 1 GΩ	●	●	●	●	●	●	●
Dielectric strength	1500 V dc	●	●	●	●	●	●	●
Rated voltage	50 V ac	●	●	●	●	●	●	●
Rated current per contact								
3 pole:	6 A	●	●	●	●	●	16 A	1 A
4 pole:	6 A	●	-	-	●	-	10 A	-
5, 6 pole:	3 A	●	-	-	●	-	7.5 A	-
7 pole:	5 A	-	-	-	-	-	●	-
Combo XLR + Jack contact	7.5 A	-	-	-	-	-	-	-
Capacitance between contacts								
3 pole:	≤ 4 pF	●	●	●	●	-	≤ 4 pF	≤ 4 pF
4, 5, 6 pole:	≤ 7 pF	●	-	●	-	-	●	-
7 pole:	≤ 9 pF	-	-	-	-	-	●	-
Mechanical								
Lifetime > 1`000 mating cycles		●	●	●	●	●	●	●
Insertion / withdrawal force	≤ 20 N	●	●	●	●	●	●	●
Retention method								
- standard:	latch lock	●	●	●	●	●	●	●
- "0" Version:	≥ 20 N separating force	●	●	●	●	●	●	-
Crimp XX:	0.22 - 0.34 mm² / AWG 24 - 22	-	-	-	-	-	-	●
Material								
Insert	Polyamide PA 6.6 30% GR	●	●	●	●	●	●	●
Shell	Zinc diecast ZnAl4Cu1	-	-	-	-	●	●	●
	(gal Ni or black Cr plated)	-	-	-	-	●	●	●
Ring	Zinc diecast ZnAl4Cu1	-	-	-	●	●	-	-	-
Contacts	- female 3 pole: Bronze CuSn6	●	●	●	●	●	●	●
	4 - 5 pole: Bronze CuSn6	●	-	●	-	-	-	-
	4 - 7 pole: Brass CuZn39Pb3	-	-	-	-	-	●	-
	- male: Brass CuZn35Pb2	●	●	●	●	●	●	●
Contact surface	gal 0.2 µm AuCo over 2 µm NiP15 (Tribor®)	●	●	●	●	-	-	-
	gal 2 µm Ag or gal 0.2 µm Au hard alloy over 2 µm Ni	-	-	-	-	●	●	●
Latch lock & spring	Ck 67 steel, treated	●	●	●	●	●	●	●
Environmental								
Operating temperature	-30°C to +80°C	●	●	●	●	●	●	●
Protection class	IP 40	●	●	●	●	●	●	●
Flammability	UL 94 HB	●	●	-	●	●	●	●
	UL 94 V-0	3 pole	-	●	3 pole	-	-	-
Solderability complies with IEC 68-2-20		●	●	●	●	●	●	●
Mounting screw		A	A	1)	A	-	-	-
Colour coding		ACR-* (4 + 5 pole only)	-	-	ACR-*	DSS	DSS	DSS

1) .... B Series 3 pole connectors > B-screw, 4 & 5 pole versions > A-screw

Specification		MPR-HD Series	P Series	Combo Series	A Combo
Electrical					
Number of contacts		3 - 5	3 - 7 (6*)	5 - 10	3 / 3
Contact resistance	≤ 6 mΩ	●	●	≤ 10 mΩ	≤ 10 mΩ
Insulation resistance - initial:	> 2 GΩ	●	●	●	●
- after damp heat test:	> 1 GΩ	●	●	> 500 MΩ	●
Dielectric strength	1500 V dc	●	●	●	●
Rated voltage	50 V ac	●	●	●	●
Rated current per contact					
3 pole:	6 A	16 A	16 A	-	3 A
4 pole:	6 A	10 A	10 A	-	-
5, 6 pole:	3 A	7.5 A	7.5 A	-	-
7 pole:	5 A	-	●	-	-
Combo XLR + Jack contact	7.5 A	-	-	●	●
Capacitance between contacts					
3 pole:	≤ 7 pF	≤ 4 pF	≤ 4 pF	≤ 2 pF	≤ 2 pF
4, 5, 6 pole:	≤ 7 pF	●	●	-	-
7 pole:	≤ 9 pF	-	●	-	-
Mechanical					
Lifetime > 1`000 mating cycles		●	●	●	●
Insertion / withdrawal force	≤ 20 N	●	●	● 25 N	●
Retention method					
- standard:	latch lock	●	●	● (XLR)	● (XLR)
- "0" Version:	≥ 20 N separating force	●	●	● 25 N	● 25 N
Material					
Insert	Polyamide PA 6.6 30% GR	●	●	●	●
Shell	Zinc diecast ZnAl4Cu1	●	●	-	-
	(gal Ni or black Cr plated)	Ni plated	●	-	-
Ring	Zinc diecast ZnAl4Cu1	-	-	-	-
Contacts	- female 3 pole: Bronze CuSn6	-	●	●	●
	4 - 5 pole: Bronze CuSn6	-	-	-	-
	4 - 7 pole: Brass CuZn39Pb3	-	●	-	-
	- male: Brass CuZn35Pb2	●	●	-	-
Contact surface	gal 0.2 µm AuCo over 2 µm NiP15 (Tribor®)	-	-	●	●
	gal 2 µm Ag or gal 0.2 µm Au hard alloy over 2 µm Ni	Au	●	-	-
Latch lock & spring	Ck 67 steel, treated	-	●	●	●
Environmental					
Operating temperature	-30°C to +80°C	●	●	●	●
Protection class	IP 40	IP 65	●	●	●
Flammability	UL 94 HB	●	●	●	●
	UL 94 V-0	-	-	-	-
Solderability complies with IEC 68-2-20		●	●	●	●
Mounting screw		-	-	A	A
Colour coding		-	-	-	-

* .... P Series male 3 - 6 pole

Ordering Information for Receptacles

A Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole
NC*FAH-D		Black Plastic	Gold	-	●①	●①
	NC*MAH	Black Plastic	Gold	●	●	●
NC*FAH-0		Black Plastic	Gold	●	●①	●①
	NC3MAH-0	Black Plastic	Gold	●	-	-
NC3FAHL-0		Black Plastic	Gold	●	-	-
NC3FAHR-0		Black Plastic	Gold	●	-	-
NC3FAH1-D	NC3MAH-1	Black Plastic	Gold	●	-	-
NC3FAH1-0		Black Plastic	Gold	●	-	-
NC3FAHL1-D		Black Plastic	Gold	●	-	-
	NC3MAHL	Black Plastic	Gold	●	-	-
NC3FAHL1-0		Black Plastic	Gold	●	-	-
NC3FAHR1-D		Black Plastic	Gold	●	-	-
	NC3MAHR	Black Plastic	Gold	●	-	-
NC3FAHR1-0		Black Plastic	Gold	●	-	-
NC3FAH2-D		Black Plastic	Gold	●	-	-
NC3FAH2-0		Black Plastic	Gold	●	-	-
NC3FAHR2-D		Black Plastic	Gold	●	-	-
NC3FAHR2-0		Black Plastic	Gold	●	-	-
NC*FAV-D		Black Plastic	Gold	-	●①	●①
	NC*MAV	Black Plastic	Gold	●	●	●
NC*FAV-0		Black Plastic	Gold	●	●①	●①
	NC3MAV-0	Black Plastic	Gold	●	-	-
NC3FAV1-D	NC3MAV-1	Black Plastic	Gold	●	-	-
NC3FAV1-0		Black Plastic	Gold	●	-	-
NC3FAV2-D		Black Plastic	Gold	●	-	-
NC3FAV2-0		Black Plastic	Gold	●	-	-
NC3FAY-D	NC3MAY	Black Plastic	Gold	●	-	-
NC3FAY-0		Black Plastic	Gold	●	-	-
NC5FAV-SW-D	NC5MAV-SW	Black Plastic	Gold	-	-	●

AA Series

Female	Male	Shell	Contact	3 pole
NC3FAAH	NC3MAAH	Black Plastic	Gold	●
NC3FAAH-0		Black Plastic	Gold	●
NC3FAAH1	NC3MAAH-1	Black Plastic	Gold	●
NC3FAAH1-0		Black Plastic	Gold	●
	NC3MAAH-0	Black Plastic	Gold	●
NC3FAAH2		Black Plastic	Gold	●
NC3AAH2-0		Black Plastic	Gold	●
NC3FAAV	NC3MAAV	Black Plastic	Gold	●
NC3FAAV-0		Black Plastic	Gold	●
NC3FAAV1	NC3MAAV-1	Black Plastic	Gold	●
NC3FAAV1-0		Black Plastic	Gold	●
	NC3MAAV-0	Black Plastic	Gold	●
NC3FAAV2		Black Plastic	Gold	●
NC3FAAV2-0		Black Plastic	Gold	●

A Series - D version come with disassembled Push latch, version with assembled latch omit -D.

AA Series comes with Push Latch assembled.

A / AA Series rear mount only, all PCB mount except Y version = IDC

①... Grounding Option "2"

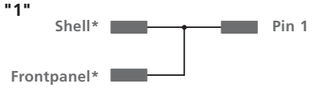
0... Retention Spring

Grounding Options

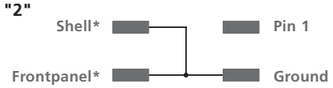
A / AA Series and B / BA Series

Female

"1"

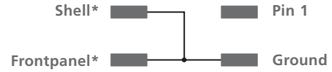


"2"



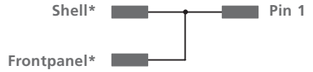
Male

w/o number



"0"

"1"



Shell* ... Contact to shell of mating connector

Frontpanel* ... Connection to frontpanel by fastening screw

Ordering Information

Ordering Information for Receptacles

B Series

Female	Male	Flange	Contact	3 pole
	NC*MBH	Metal	Gold	●
	NC*MBH-B	Black Metal	Gold	●
	NC*MBH-M25	Black Metal	Gold	●
	NC*MBH-B-M25	Black Metal	Gold	●
NC3FBH1-D		Metal	Gold	●
NC3FBH1-B-D		Black Metal	Gold	●
NC3FBH1-M25		Metal	Gold	●
NC3FBHL1-D		Metal	Gold	●
	NC3MBHL	Metal	Gold	●
NC3FBHR1-D		Metal	Gold	●
NC3FBH2-D		Metal	Gold	●
NC3FBH2-B-D		Black Metal	Gold	●
NC3FBHR2-D		Metal	Gold	●
	NC3MBHR	Metal	Gold	●
	NC*MBV	Metal	Gold	●
	NC*MBV-B	Black Metal	Gold	●
	NC*MBV-M25	Metal	Gold	●
	NC*MBV-B-M25	Metal	Gold	●
NC3FBV1-D		Metal	Gold	●
NC3FBV1-B-D		Black Metal	Gold	●
NC3FBV1-M25		Metal	Gold	●
NC3FBV2-D		Metal	Gold	●
NC3FBV2-B-D		Black Metal	Gold	●
NC3FBY-D	NC3MBY	Metal	Gold	●
NC3FBY-B-D	NC3MBY-B	Black Metal	Gold	●
NC3FBH1-E-D	NC3MBV-E	Metal	Gold	●
NC3FBH2-E-D		Metal	Gold	●
	NC3MBH-E	Metal	Gold	●

BA Series

Female	Male	Flange	Contact	3 pole	4 pole	5 pole
NC3FBAH1-D		Metal	Gold	●	-	-
	NC3MBAH	Metal	Gold	●	-	-
NC3FBAH1-0		Metal	Gold	●	-	-
	NC3MBAH-0	Metal	Gold	●	-	-
NC3FBAH2-D		Metal	Gold	●	-	-
	NC3MBAH-1	Metal	Gold	●	-	-
NC3FBAH2-0		Metal	Gold	●	-	-
NC3FBAV1-D		Metal	Gold	●	-	-
	NC3MBAV	Metal	Gold	●	-	-
	NC3MBAV-0	Metal	Gold	●	-	-
NC3FBAV2-D		Metal	Gold	●	-	-
	NC3MBAV-1	Metal	Gold	●	-	-
NC3FBAV2-0		Metal	Gold	●	-	-
NC*FBH-D		Metal	Gold	-	●	●
	NC*MBH	Metal	Gold	-	●	●
NC*FBH-B-D		Black Metal	Gold	-	●	●
	NC*MBH-B	Black Metal	Gold	-	-	●
NC*FBV-D		Metal	Gold	-	●	●
	NC*MBV	Metal	Gold	-	●	●
NC*FBV-B-D		Black Metal	Gold	-	●	●
	NC*MBV-B	Black Metal	Gold	-	-	●
NC5FBV-SW-D	NC5MBV-SW	Metal	Gold	-	-	●

B / BA Series - D version come with disassembled Push latch, version with assembled latch omit -D.

B / BA Series rear mount only, all PCB mount except Y version = IDC

D Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
NC3FD-V	NC3MD-V	Nickel	Silver	●	-	-	-	-
NC3FD-V-B	NC3MD-V-B	Black Cr	Gold	●	-	-	-	-
NC3FD-V-BAG	NC3MD-V-BAG	Black Cr	Silver	●	-	-	-	-
NC3FDM3-V	NC3MDM3-V	Nickel	Silver	●	-	-	-	-
NC3FDM3-V-B	NC3MDM3-V-B	Black Cr	Gold	●	-	-	-	-
NC3FD-H	NC3MD-H	Nickel	Silver	●	-	-	-	-
NC3FD-H-B	NC3MD-H-B	Black Cr	Gold	●	-	-	-	-
NC3FD-H-BAG	NC3MD-H-BAG	Black Cr	Silver	●	-	-	-	-
NC3FDM3-H-D	NC3MDM3-H	Nickel	Silver	●	-	-	-	-
NC3FDM3-H-B-D	NC3MDM3-H-B	Black Cr	Gold	●	-	-	-	-
NC3FDM3-H-BAG-D	NC3MDM3-H-BAG	Black Cr	Gold	●	-	-	-	-

DL Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
NC*FD-L-1	NC*MD-L-1	Nickel	Silver	●	●	●	●	●
NC*FD-L-B-1	NC*MD-L-B-1	Black Cr	Gold	●	●	●	●	●
NC*FD-L-BAG-1	NC*MD-L-BAG-1	Black Cr	Silver	●	●	●	●	-
NC*FDM3-L-1-D	NC*MDM3-L-1	Nickel	Silver	●	●	●	-	-
NC3FDM3LBAG-1-D	NC3MDM3LBAG-1	Black Cr	Silver	●	-	-	-	-
NC3FD-L-1-HE	NC3MD-L-1-HE	Velour Cr	Gold	●	-	-	-	-
NC*FDM3-H-D	NC*MDM3-H	Nickel	Silver	-	●	●	●	-
NC*FDM3-H-B-D	NC*MDM3-H-B	Nickel	Silver	-	●	●	●	-
NC*FDM3-H-BAG-D	NC*MDM3-H-BAG	Black Cr	Silver	-	●	●	●	-
NC3FD-S-1-B	NC3MD-S-1-B	Black Cr	Silver	●	-	-	-	-

DLX Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
NC*FD-LX	NC*MD-LX	Nickel	Silver	●	●	●	●	●
NC*FD-LX-B	NC*MD-LX-B	Black Cr	Gold	●	●	●	●	●
NC*FD-LX-BAG	NC*MD-LX-BAG	Black Cr	Silver	●	●	●	-	-
NC*FD-LX-M3	NC*MD-LX-M3	Nickel	Silver	●	●	●	-	-
NC3FD-LX-HE	NC3MD-LX-HE	Velour Cr	Gold	●	-	-	-	-

DLX Crimp Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
NC3FD-LX-HA	NC3MD-LX-HA	Nickel	Silver	●	-	-	-	-
NC3FD-LX-HA-BAG	NC3MD-LX-HA-BAG	Black Cr	Gold	●	-	-	-	-

Ordering Information for Receptacles

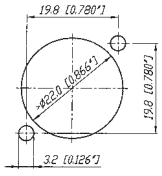
Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
EMC XLR								
NC3FDX-EMC-SPEC		Black Cr	Gold	●	-	-	-	-
Accessories								
FDR-1		Black round panel mounting flange with screws for larger panel cut-outs						
P Series								
NC*FP-1		Nickel	Silver	●	●	●	●	●
	NC*MP	Nickel	Silver	●	●	●	●	-
NC*FP-B-1		Black Cr	Gold	●	●	●	●	●
	NC*MP-B	Black Cr	Gold	●	●	●	●	-
NC*FP-BAG-1	NC*MP-BAG	Black Cr	Silver	●	●	●	●	-
MPR-HD Series								
-	NC*MPR-HD	Nickel	Gold	●	●	●	-	-

	Shell	Contact	5 pole	6 pole	9 pole	10 pole
Combo A Series						
NCJ6FA-H	Black plastic	Gold	-	●	-	-
NCJ6FA-H-0	Black plastic	Gold	-	●	-	-
NCJ6FA-V	Black plastic	Gold	-	●	-	-
NCJ6FA-V-0	Black plastic	Gold	-	●	-	-
Combo Series						
NCJ*FI-H	Black plastic	Gold	●	●	●	●
NCJ*FI-H-0	Black plastic	Gold	●	●	●	●
NCJ*FI-S	Black plastic	Gold	●	●	●	●
NCJ*FI-S-0	Black plastic	Gold	●	●	●	●
NCJ*FI-V	Black plastic	Gold	●	●	●	●
NCJ*FI-V-0	Black plastic	Gold	●	●	●	●

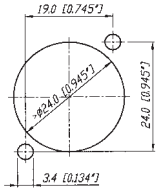
Contact #	1	2	3	T	R	S	TN	RN	SN	G	GN
NCJ5FI-*	x	x	x	x		x				x	
NCJ6FI-*	x	x	x	x	x	x				x	
NCJ9FI-*	x	x	x	x	x	x	x	x	x	x	
NCJ10FI-*	x	x	x	x	x	x	x	x	x	x	x

Panel Cutouts

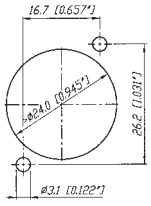
A / AA / B / BA Series



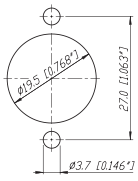
D / DL / DLX Series



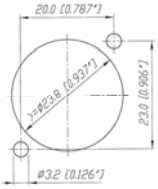
P Series Female



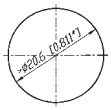
P Series Male



Combo



MPR Series



Assembly Tools

HTXP

BTXX

HX-R-BNC

DIE-R-BNC-PT

HTXP	Hand tool to tighten the XX and PX-bushing
BTXX	Assembly fixture to tightening the XX-bushing
HX-R-BNC	Crimp tool for XCC Series
DIE-R-BNC-PT	Crimp die for XCC Series (6.5 mm HEX)
DIE-R-HA-1	Crimp die for XX-HA Series

Plugs & Jacks

Content Page

Plugs & Jacks

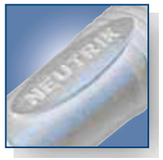
Introduction

The Neutrik® plug and jack program offers a wide range of professional phone connectors including 1/4", 3.5 mm, MIL/B-gauge style and TT or bantam style plugs. The jack range offers an exceptional "slim" 1/4" PCB jack that is almost 20% smaller than most other designs. The heavy duty M line combines a wide range of options such as three different nose forms and four styles of contacts including 3 PCB and one solder tab. It also includes a 1/4" chassis and cable jack line with the secure locking feature, well known from the XLR range. All jacks are manufactured from strong high-grade thermoplastics and are available in all common versions which make them suitable for audio and industrial applications.

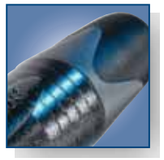
The plug line features:
- Mono (TS) and Stereo (TRS) plugs
- Straight and right-angle versions
- Rugged diecast shell in nickel or black chromium
- Nickel or gold plated contacts
- Chuck type strain relief
- Precision machined plugfinger without rivets
- Coloured boots and rings for coding
- Silent Plug for instrument (guitar) applications

All plugs and jacks are specified to IEC 60603-11 and EIA RS-453 or the respective MIL standard.

Neutrik® also offers a special jack version which is a combined 3 pole XLR receptacle and a 1/4" phone jack for balanced mic or line inputs in one XLR shell. This "one for two" panel mount offers substantial cost, labour and material savings. For more information on the Combo products see page 29 and 30 or visit our website at www.neutrik.com.



Neutrik brand



Anti-kink bushing

Chuck type strain relief

1/4" Phone Plug - PX and PRX Series

NP2X

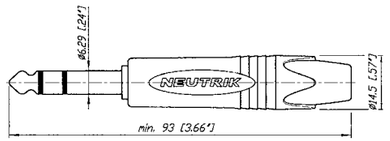
NP3X-B

NP3X + PXR-5

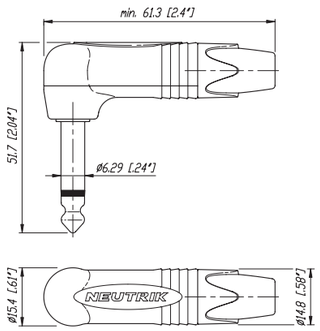
NP3RX-B

- Slim 1/4" plug with million fold proven chuck type strain relief
- Precision machined one piece contacts - no rivets
- Sleek attractive design for best handling convenience
- 14.5 mm only in diameter (right angle 15.4 mm) - serves highest packing density of 15.88 mm jack pitch
- Nickel or gold plugfinger in mono (TS) and stereo (TRS)
- Screwless assembly (PRX series as well)
- L-D versions available which accommodates cable O.D. up to 8 mm

NP3X



NP2RX



15.88 mm jack pitch:

Moving magnet

Right angle plug

Attention!
For use with instrument (guitar) applications only. Damage may occur if connected to amplifier output.

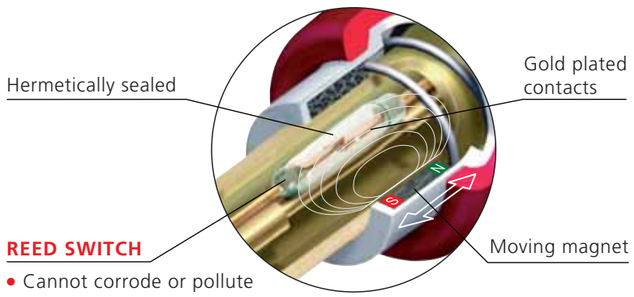
1/4" Phone Plug - silentPLUG

- Avoid pops and squeals
- Hermetically sealed switching contacts
- Lifetime beyond 10'000 mating cycles
- Slim right-angle plug with industry proven and reliable chuck type cable strain relief
- Sleek attractive design for convenient handling and connections
- Rubber overlay on straight housing for best shock-protection and reliability
- L-D versions available which accommodates cable O.D. up to 8 mm

Design Criteria

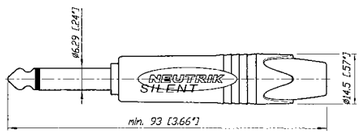
The Silent Plug automatically mutes (shorts) an instrument (guitar) cable to avoid pops and squeals when changing the instrument (guitar) under load.
The integrated silent switch (pat. pending) is based on REED-technology and guarantees a lifetime beyond 10'000 mating cycles.
The new PX silentPLUG features a rugged metal shell enhanced with a rubber cushion overlay for improved shock protection.

Detail Silent Switch:



- Cannot corrode or pollute
- No wear, constant contact resistance
- Decoupled from switching mechanism

NP2X-AU-SILENT



Crystal stones

The standard of professional phone plugs

B-Gauge type

crystalCON

NP2X-B-CRYSTAL

- Mono 1/4" phone plug embellished with CRYSTALLIZED™– *Swarovski Elements*
- Fancy, noble, valuable, attractive package - an eye-catcher

C Series

NP2C + BSP-3

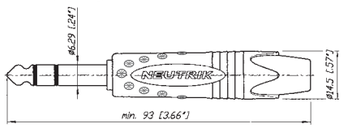
- Available in mono (TS) or stereo (TRS)
- Meets EIA / IEC standards
- Unique plug finger design without rivets
- Sturdy diecast metal shell
- Excellent Neutrik® chuck type strain relief

MIL/B-Gauge Type Plugs

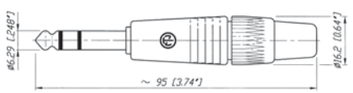
NP3TB-R NP3CM-B

- 1/4" "B-Gauge" and "MIL" Type Plugs
- All metal design, chuck type strain relief, no rivets
- Meet all prevailing standards
- Available as plug fingers only for overmolding

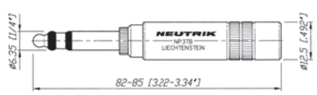
NP2X-B-CRYSTAL



NP3C



NP3TB-B



NP3CM-B

Bantam plug

Dual bantam plug

Gold plated contacts

Easy connector assembly

0.173" Bantam Type Miniature Plugs

NP3TT-1-B NP3TT-2

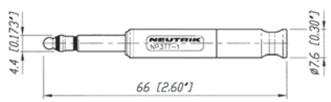
- Very robust ergonomic design
- Gold contact version in combination with the NJ3TTA jack eliminates contact problems due to corrosion or dirt
- The single plug NP3TT-P and the dual bantam plug NP3TT-2 are made for assembling with a standard HEX crimping tool as used with coax cables
- Solder termination for T + R, crimp termination for sleeve contact

3.5 mm Right-Angle Stereo Plug

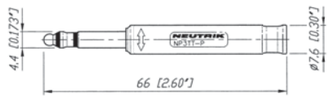
NTP3RC

- The only available 3.5 mm plug with chuck type strain relief
- All metal housing - reliable and robust
- Easy to assemble, simple to use
- Slim design - space saving
- Excellent cable protection
- All Nickel or black housing, available with gold plated contacts

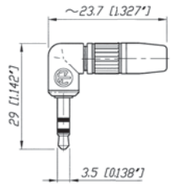
NP3TT-1



NP3TT-P



NTP3RC



Specifications		1/4" Phone Plugs SILENT & CRYSTAL	MIL / B-gauge Type	0.173" Bantam Type	3.5 mm Stereo Plugs
Electrical					
Rated current:	depends on mating connector	●	●	●	●
Contact resistance:	depends on mating connector	●	●	●	●
Insulation resistance:	- initial: > 2 GΩ	●	●	●	●
	- after damp heat test: ≥ 1 GΩ	●	●	●	●
Dielectric strength	1 kV dc	●	●	●	●
Mechanical					
Lifetime > 1'000 mating cycles		●	●	●	●
Wiring:	solder terminals	●	●	●	●
Wire size	mm^2	1	1 (NP3CM: 0.5)	0.25	0.22
	AWG	18	18 (NP3CM: 20)	24	24
Cable O.D.:	mm	4 - 7	4 - 7	4.8 max	2 - 4.5
Materials					
Shell:		Zinc diecast (ZnAl4Cu1) Ni or black Cr plated	Brass (CuZn39Pb3) black or red coated	Brass (CuZn39Pb3) 2 µm Ni (Su) plated	Zinc diecast (ZnAl4Cu1) Ni or black Cr plated
Insulation: Polyamide (PA 6.6 30 % GR)		●	●	●	PA 6.6 15% GR
Contacts: Brass (CuZn39Pb3)		●	●	● (Tip: CuSn6)	●
2 µm Ni (Su) or Au plated		●	● or Brass	2 µm TRIBOR® (NiP-AuCo)	●
Chuck:		POM	POM	-	POM
Bushing:		POM + PU	-	-	CuZn39Pb3 + PU (Ni or black Chrome)
Rubber shell-overlay:		EPDM	-	-	-
Environmental					
Temperature range: -20 °C to +65 °C		●	●	●	●
Solderability: Complies with IEC 68-2-20		●	●	●	●

Accessories


BSP-*


BPX-*


PXR-*


BSTT-*


BSTP-*


PCR-*

BSP-*	Coloured bushing for NP*C Series	BSTP-*	Coloured sleeves for NP3TT-P Series
BPX-*	Coloured bushing for NP*X Series	PXR-*	Coloured marking rings for NP*X Series
BPX-L	Large bushing for NP*X Series up to 8.0 mm cable O.D.	PCR-*	Coloured marking rings for NP*C Series
BSTT-*	Coloured sleeves for NP3TT Series	BPX-L	Large bushing set (O.D. 8 mm)

*: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White; Must be ordered in multiples of 100.

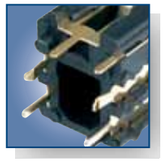
Assembly tool	
HX-TT-1	Assembly and crimp tool for NP3TT-1/AU
HX-R-BNC	HEX crimp tool for NP3TT-P*
DIE-R-BNC-PJ	HEX crimp die for NP3TT-P* (5.4 mm)
HTXP	Hand tool to tighten the PX and XX-bushing
HT-PXS	Hand tool to hold shell of PX Plug

Part Number		Shell	Contacts	Standards Compatibility	Remarks
1/4" Professional Phone Plugs - PX and PRX Series					
NP2X	NP2RX	Nickel	Nickel	IEC 60603-11 / EIA RS-453	Mono plug, black bushing, chuck type strain relief
NP2X-BAG	NP2RX-BAG	Black Cr	Nickel	●	Mono plug, black bushing, chuck type strain relief
NP2X-B	NP2RX-B	Black Cr	Gold	●	Mono plug, black bushing, chuck type strain relief
NP3X	NP3RX	Nickel	Nickel	●	Stereo plug, black bushing, chuck type strain relief
NP3X-BAG	NP3RX-BAG	Black Cr	Nickel	●	Stereo plug, black bushing, chuck type strain relief
NP3X-B	NP3RX-B	Black Cr	Gold	●	Stereo plug, black bushing, chuck type strain relief
*-D					Bulk packed to be ordered in multiples of 100
silentPLUG - Guitar Plug					
NP2X-AU-SILENT		Rubber overlay	Gold	IEC 60603-11/EIA RS-453	Mono plug , chuck-type strain relief, silent switch
NP2RX-AU-SILENT		red coated	Gold	IEC 60603-11/EIA RS-453	right angle mono plug, chuck-type strain relief, silent switch
crystalCON - 1/4" Professional Phone Plug					
NP2X-B-CRYSTAL		Black Cr	Gold	IEC 60603-11/EIA RS-453	Mono plug, black bushing, chuck type strain relief, equipped with CRYSTALLIZED™ – *Swarovski Elements*
1/4" Professional Phone Plugs - PC Series					
NP2C		Nickel	Nickel	IEC 60603-11/EIA RS-453	Mono plug, black bushing, chuck type strain relief
NP2C-BAG		Black Cr	Nickel	●	Mono plug, black bushing, chuck type strain relief
NP2C/B		Black Cr	Gold	●	Mono plug, black bushing and gold contacts, chuck type strain relief
NP3C		Nickel	Nickel	●	Stereo plug, black bushing, chuck type strain relief
NP3C-BAG		Black Cr	Nickel	●	Stereo plug, black bushing, chuck type strain relief
NP3C/B		Black Cr	Gold	●	Stereo plug, black bushing and gold contacts, chuck type strain relief
NP2C-BAG-T-AU		Black Cr	Nickel + T: Gold	●	Mono plug, black bushing with gold tip, chuck type strain relief
NP2C-T10AA		Nickel	Nickel	●	Mono plug, red bushing, with built-in 1:10 transformer to convert microphone levels to guitar inputs, chuck type strain relief
NP2RCS		Nickel + black plastic	Nickel	●	Mono right-angle plug, black bushing, chuck type strain relief
NP3RCS		Nickel + black plastic	Nickel	●	Stereo right-angle plug, black bushing, chuck type strain relief
NP*C-D					Bulk packed to be ordered in multiples of 100
MIL/B-gauge Type Phone Plugs					
NP3TB-B		Black	Nickel	B-GAUGE BP0316	1/4" B-Gauge plug, chuck type strain relief
NP3TB-R		Red	Nickel	●	1/4" B-Gauge plug, chuck type strain relief
NP3TM-B		Black	Nickel	MIL-P-642/2	1/4" MIL plug , chuck type strain relief
NP3TM-R		Red	Nickel	●	1/4" MIL plug , chuck type strain relief
NP2CM-B		Black	Brass	MIL-P-642/4	Mono 1/4" MIL plug, chuck type strain relief
NP2CM-R		Red	Brass	●	Mono 1/4" MIL plug, chuck type strain relief
NP3CM-B		Black	Brass	MIL-P642/5A	Stereo 5.23 mm (0.206") MIL plug, chuck type strain relief
NP3CM-R		Red	Brass	●	Stereo 5.23 mm (0.206") MIL plug, chuck type strain relief
0.173" Bantam Type Miniature Plugs					
NP3TT-1-B		Nickel + black plastic	Nickel	MIL-P-642/13	4.4 mm (0.173") Bantam plug with solder contacts, black sleeve
NP3TT-1-R		Nickel + red plastic	Nickel	●	4.4 mm (0.173") Bantam plug with solder contacts, red sleeve
NP3TT-AU-B		Nickel + black plastic	Gold	●	4.4 mm (0.173") Bantam plug with solder contacts, black sleeve
NP3TT-AU-R		Nickel + red plastic	Gold	●	4.4 mm (0.173") Bantam plug with solder contacts, red sleeve
NP3TT-P-B		Black plastic	Nickel	●	4.4 mm (0.173") Bantam plug with solder contacts, black sleeve
NP3TT-P-R		Red plastic	Nickel	●	4.4 mm (0.173") Bantam plug with solder contacts, red sleeve
NP3TT-P-AU-B		Black plastic	Gold	●	4.4 mm (0.173") Bantam plug with solder contacts, black sleeve
NP3TT-P-AU-R		Red plastic	Gold	●	4.4 mm (0.173") Bantam plug with solder contacts, red sleeve
NP3TT-2		Black plastic	Nickel	●	4.4 mm (0.173") Twin Bantam plug with solder contacts, black sleeve
3.5 mm Right-Angle Stereo Plug					
NTP3RC		Nickel	Nickel	IEC 60603-11	3.5 mm audio plug with chuck and bushing
NTP3RC-B		Black Cr	Gold	IEC 60603-11	3.5 mm audio plug with chuck and bushing

1/4" cable jack with locking

Release latch

Snapping cap



Solder tags

Locking 1/4" Cable Jacks

NJ3FC6

NJ3FC6-BAG

- Securely locking cable jack
- Mates with all mono or stereo plugs specified to EIA RS-453
- Extremely robust and reliable
- Excellent Neutrik cable retention
- Coloured boots available in 10 colours
- For cable O.D. up to 8 mm

Locking 1/4" Chassis Jacks

NJ3FP6C

NJ3FP6C-BAG

- Mates with all mono or stereo plugs specified to EIA RS-453
- Dimensionally compatible with D Series (31 x 26 mm)
- Securely locking chassis jack
- Solder terminals
- Special version with black plastic shell
- Choice of grounding option (see on www.neutrik.com)

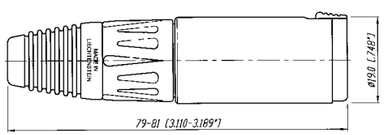
1/4" Vertical Jacks

NJ*FD-V

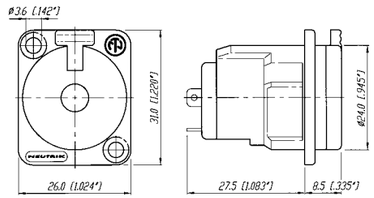
NJ6TB-V

- Neutrik 1/4" Vertical PCB Jacks come in either standard 1/4" (FD) or mil gauge (TB) versions
- They feature a snap on/twist off cap which drastically reduces assembly times
- Retention force is provided by a special spring element independent of the contacts which results in optimal contact force with minimal contact wear
- Gold plated contact area for long durability and reliable, corrosion free operation
- High packing density compact design allows for more jacks in less space
- Available in Stereo switching and non-switching versions, and Mono non-switching version
- Over 10,000 insertion/withdrawal cycles

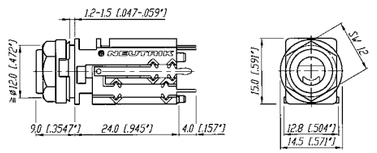
NJ3FC6



NJ3FP6C



NJ*FD-V



* ... 2, 3, 5, 6

Half threaded nose

Chrome ferrule

Plastic nut

M Jacks

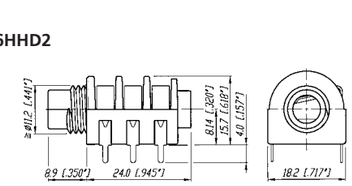
NMJ4HHD2

NMJ2HC-S

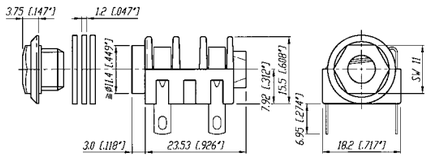
NMJ6HFD2

- Wide body and extremely durable contacts
- Available in all common versions:
  - mono
  - stereo
  - switched
  - unswitched
- Hardwire and PCB version
- Nose type in
  - half threaded
  - fully threaded
  - chrome ferrule
- Full threaded and chrome nose M Jacks are supplied with washer and fixing nut
- Mounting hardware for half threaded nose must be ordered separatly
- Fascia appearance in plastic or chrome

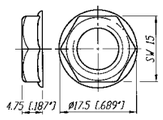
NMJ6HHD2



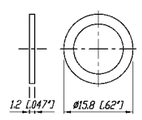
NMJ4HC-S



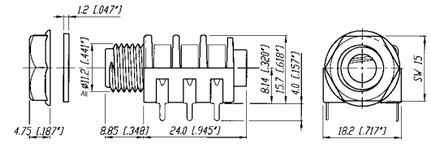
NRJ-NUT-B



NRJ-WB (washer)



NMJ6HFD2



Half threaded nose

Chrome nose

Chassis ground contact

Gold plated contact

Slim Jacks

NRJ4HH-1

NRJ6HF-1

NRJ6HM-1

NRJ-NUT-B

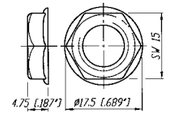
NRJ-NUT-MK

NRJ-NUT-MS

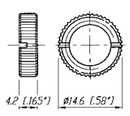
NRJ-NUT-MN
(Metal Nose only)

- High board packing densities
- Nose type in
  - half thread
  - fully threaded
  - metal
- *-1 versions meet the requirements of EMC rules through efficient chassis grounding system
- Retention spring ensures optimum grip on inserted plugs, avoiding the chance of lost connection
- All Slim line jacks have PCB horizontal mount pins
- Mounting nuts in different versions available - must be ordered separatly

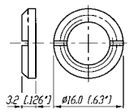
NRJ-NUT-B



NRJ-NUT-MK

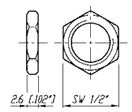


NRJ-NUT-MS

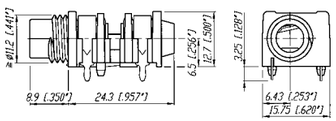


NRJ-NUT-MN

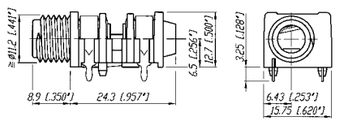
(Only compatible with metal nose).
Thread pitch is a 3/8" 32 UNEF 2A.



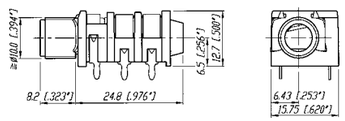
NRJ4HH-1



NRJ4HF-1



NRJ6HM-1



Plane nose

Quick fix nose

Quick fix nut

Fully threaded nose

Stacking Jacks

NSJ8HC

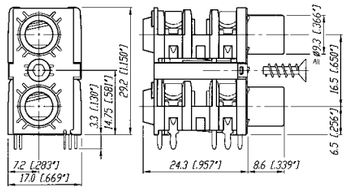
NSJ12HL

NSJ12HH-1

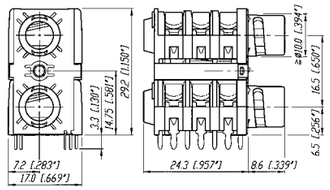
NSJ12HF-1

- Mono and stereo dual slim jack socket for PCB mounting with switch contacts
- Mounting method by either two quick fix or threaded nuts or one single center screw
- Highest board packing density as two jacks are in a single footprint, fit in 1 RU
- Version in fully and half threaded nose, full nose, quick-fit and plane

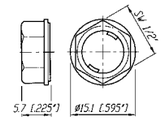
NSJ8HC



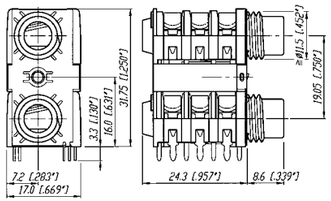
NSJ12HL



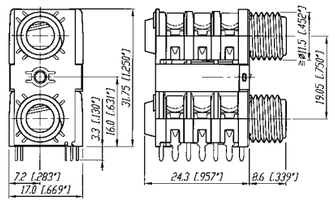
NSJ-NUT-B
(Quick fix nut)



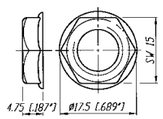
NSJ12HH-1



NSJ12HF-1



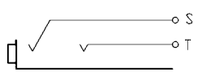
NRJ-NUT-B



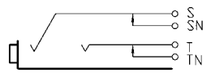
Specifications		Vertical Jack	Locking Cable & Chassis Jack	M Jack	Slim Jack	Stacking Jack
Electrical						
Contact resistance	- initial:	< 10 mΩ	< 6 mΩ	< 15 mΩ	< 10 mΩ	-
	- Top row:	-	-	-	-	< 15 mΩ
	- Bottom row:	-	-	-	-	< 10 mΩ
Switch contact resistance:	- for silver:	-	-	< 30 mΩ	< 25 mΩ	-
	- for gold:	< 15 mΩ	-	-	< 10 mΩ	-
	- Top row:	-	-	-	-	< 15 mΩ
	- Bottom row:	-	-	-	-	< 10 mΩ
Insulation resistance:	≥ 1GΩ @ 500 V dc	●	●	●	●	●
Dielectric strength	1 kV dc	●	●	●	●	●
Rated current:		3 A	10 A	3 A	3 A	3 A
Rated switch contact current:		0.25 A @ 12 V	N/A	0.5 A @ 50 V	0.5 A @ 50 V	0.5 A @ 50 V
Mechanical						
Lifetime	> 10`000 cycles	●	●	●	●	●
Insertion / withdrawal force:		< 10 N / > 8 N	< 20 N / < 20N	< 20 N / > 10 N	< 20 N / > 10 N	< 20 N / > 10 N
Cap opening torque:		25 N cm / 9.84 N in	-	-	-	-
Locking force:		-	> 80 N	-	-	-
Wire size:		-	1 mm² / 18 AWG ①	-	-	-
Cable O.D. (FC6 only)		-	3.5 - 8.0 mm	-	-	-
Panel thickness:		1.2 - 1.5 mm [0.047 - 0.06"]	-	-	-	-
	- Full nose type:	-	-	< 3.0 mm	< 3.0 mm	-
	- Half nose type:	-	-	< 1.0 mm	< 1.0 mm	-
	- Chrome nose:	-	-	< 4.7 mm	-	-
	- NSJ*HL:	-	-	-	-	1.0 - 1.6 mm
	- NSJ*HC:	-	-	-	-	> 1.0 mm
Material						
Shell / Handle:		PA 6.6 30% GR	ZnAl4Cu1 Ni plated or black coated	PA 6.6 15% GR	PA 6 15% GR	PA 6 15% GR
	- FP6P:	-	PA 6.6 30% GR	-	-	-
Insulation:		-	PA 6.6 30% GR	-		
Contacts:		CuSn6	CuBe2/CuZn37 (ground)	Ni-Silver	CuSn6	CuSn6
Contact surface:		0.2 µm Au	2 µm Ag	-	gal 2 µm Ag / 0.2 µm Au	gal 2 µm Ag
Cap / Nut / Washer:		POM	-	PA 6.6 15% GR	PA 6.6 15% GR	PA 6.6 15% GR
Ring Nut:		-	-	-	Brass (Ni plated)	Brass (Ni plated)
Chuck:		-	POM	-	-	-
Bushing:		-	PA 6.6 15% GR + PUR	-	-	-
Temperature range:	-25°C to +70°C	●	●	●	●	●
①... max. for soldering tag						
Environmental						
Solderability complies with IEC 68-2-20:		●	●	●	●	●
Standard Compatibility:						
EIA RS 453 + IEC 60603-11		NJ*FD	●	●	●	●
B-GAUGE BPO 316, MIL-J-641/3		NJ*TB	-	-	-	-

Circuits:

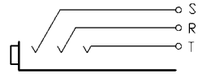
Mono unswitched



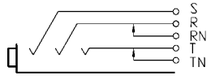
Mono switched



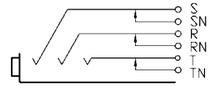
Stereo unswitched



2x switching (normalling) Stereo



3x switching (normalling) Stereo



Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
Slim Jack					
PCB Mount Sockets - Switched					
NRJ3HF-1	Black/Plastic	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Mono, full threaded nose, chassis ground contact
NRJ4HF	●	●	●	●	Mono, full threaded nose
NRJ4HF-1	●	●	●	●	Mono, full threaded nose, chassis ground contact
NRJ6HF	●	●	●	●	Stereo, full threaded nose
NRJ6HF-1	●	●	●	●	Stereo, full threaded nose, chassis ground contact
NRJ4HH	●	●	●	●	Mono, half threaded nose
NRJ4HH-1	●	●	●	●	Mono, half threaded nose, chassis ground contact
NRJ6HH	●	●	●	●	Stereo, half threaded nose
NRJ6HH-1	●	●	●	●	Stereo, half threaded nose, chassis ground contact
NRJ6HF-AU	●	Gold	●	●	Stereo, full threaded nose, gold plated contacts
NRJ6HF-1-AU	●	Gold	●	●	Stereo, full threaded nose, chassis ground contact, gold plated contacts
NRJ6HH-AU	●	Gold	●	●	Stereo, half threaded nose, gold plated contacts
NRJ-NUT-B	●	-	-	-	Hexagonal black plastic nut
NRJ-NUT-R	Red/Plastic	-	-	-	Hexagonal red plastic nut
NRJ-NUT-MK	Metal/Ni plated	-	-	-	Metal ring nut, knurled
NRJ-NUT-MS	Metal/Ni plated	-	-	-	Metal ring nut
PCB Mount Sockets - Switched with Metal Nose					
NRJ4HM-1	Black/Plastic	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Mono, metal threaded nose
NRJ4HM-1-AU	●	Gold	●	●	Mono, metal threaded nose, gold plated contacts
NRJ6HM-1	●	Silver	●	●	Stereo, metal threaded nose
NRJ6HM-1-AU	●	Gold	●	●	Stereo, metal threaded nose, gold plated contacts
NRJ-NUT-MN	Metal	-	-	-	Hexogonal metal nut (for metal nose jack only)

Stacking Jack

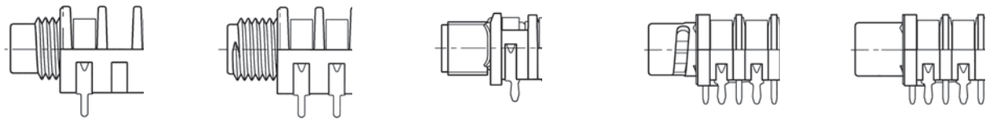
NSJ8HL	Polyamid PA 6.6 GR	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Mono, quick fix nose
NSJ12HL	●	●	●	●	Stereo, quick fix nose
NSJ8HC	●	●	●	●	Mono, full nose
NSJ12HC	●	●	●	●	Stereo, full nose
NSJ12HF-1	●	●	●	●	Full threaded nose
NSJ12HH-1	●	●	●	●	Half threaded nose
NSJ-NUT-B	Black/Plastic	-	-	-	Quick fix nut

All Slim jacks are for PCB mount only.
Mounting nuts must be ordered separately, except for Stacking Jack type NSJ8HL and NSJ12HL.

Ordering Key:

NRJ*H			NEUTRIK Jack Horizontal	*	number of contacts:
	H		half threaded nose	**2**	mono unswitched
	F		full threaded nose	**4**	mono switched
	L		quick fix nose	**6**	stereo switched
	M		metall threaded nose	**8**	mono stacking jack
	C		plane nose	**12**	stereo stacking jack
		-1	chassis ground contact		

Nose: **-H** **-F** **-M** **-L** **-C**



Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
1/4" Locking Jack					
NJ3FC6	Nickel	Silver	Wire soldering	IEC 60603-11/EIA RS 453	Cable Jack
NJ3FC6-BAG	Black	●	●	●	●
NJ3FP6C	Nickel	●	●	●	Chassis Jack
NJ3FP6C-B	Black	Gold	●	●	●
NJ3FP6C-BAG	Black	Silver	●	●	●
NJ3FP6F-P	Nickel	●	●	●	●
NJ3FP6P-BAG	Black/Plastic	●	●	●	Plastic Chassis

Accessories

DSS SCDR NDJ SCDX SCDP-*

NZP1RU	Panel 1RU D-shape housing	SCDX	Hinged cover seals locking 1/4 chassis jack, IP42 rated
DSS-*	Lettering plate, coloured plastic	SCDP-*	D-Size sealing gaskets, colour coding
SCDR	Rear end protection cover for locking 1/4"chassis jack		(*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
NDJ	dummyPLUG for 1/4" chassis jack		

1/4" Vertical Jack					
NJ2FD-V	Black/Plastic	Gold	Vertical PCB mount	IEC 60603-11/EIA RS 453	Non-switching Mono Jack (T/S)
NJ3FD-V	●	●	●	●	Non-switching Stereo Jack (T/R/S)
NJ5FD-V	●	●	●	●	2 x switching (normalling) Stereo jack (T/TN/R/RN/S)
NJ6FD-V	●	●	●	●	3 x switching (normalling) Stereo jack (T/TN/R/RN/S/SN)
NJ6TB-V	●	●	●	B-Gauge BPO316 Mil-J-641/3	3 x switching (normalling) Stereo jack (T/TN/R/RN/S/SN)

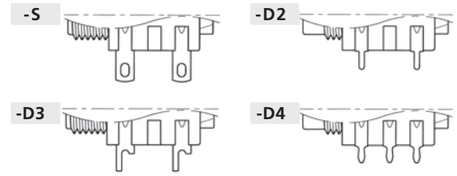
M Jack

NMJ2HF-S	Black/Plastic	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Mono, unswitched, full threaded nose, solder tags
NMJ3HF-S	●	●	●	●	Stereo, unswitched, full threaded nose, solder tags
NMJ4HF-S	●	●	●	●	Mono, switched, full threaded nose, solder tags
NMJ2HC-S	●	●	●	●	Mono, unswitched, Chrome ferrule, solder tags
NMJ4HC-S	●	●	●	●	Mono, switched, Chrome ferrule, solder tags
NMJ4HFD2	●	●	●	●	Mono, switched, full threaded nose, PCB mount
NMJ4HFD3	●	●	●	●	Mono, switched, full threaded nose, offset PCB mount
NMJ4HCD2	●	●	●	●	Mono, switched, Chrome ferrule, PCB mount,
NMJ4HHD2	●	●	●	●	Mono, switched, half threaded nose, PCB mount, without nut and washer
NMJ6HF-S	●	●	●	●	Stereo, switched, full threaded nose, solder tags
NMJ6HC-S	●	●	●	●	Stereo, switched, Chrome ferrule, solder tags
NMJ6HCD2	●	●	●	●	Stereo, switched, Chrome ferrule, PCB mount
NMJ6HHD2	●	●	●	●	Stereo, switched, half threaded nose, PCB mount, without nut and washer
NMJ6HFD2	●	●	●	●	Stereo, switched, full threaded nose, PCB mount
NMJ6HFD3	●	●	●	●	Stereo, switched, full threaded nose, offset PCB mount
NMJ6HCD3	●	●	●	●	Stereo, switched, Chrome ferrule, offset PCB mount
NMJ6HFD4	●	●	●	●	Stereo, switched, full threaded nose, tear drop PCB mount

Full threaded and Chrome nose M-Jacks are supplied with fixing nut and washers.
Mounting hardware for half threaded nose must be ordered separately.

Ordering Key:

NMJ*H			NEUTRIK M Jack Horizontal	*	number of contacts:
	H		half threaded nose	**2**	mono unswitched
	F		fully threaded nose	**3**	stereo unswitched
	C		chrome nose	**4**	mono switched
		-S	solder tag	**5**	stereo switched (T/S)
		D2	PCB pins 02	**6**	stereo switched (T/R/S)
		D3	PCB pins 03		
		D4	PCB pins 04		



Gold plated contacts

Soft-touch surface

Phono socket

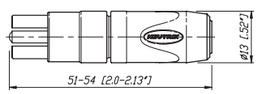
Profi® RCA Series

NEW

NF2C-B2

- Makes ground before signal contact and breaks signal before ground
- No more disturbing noise and broken speaker cones
- Precisely machined to our demanding quality standards
- Neutrik unique chuck type strain relief
- Gold plated contacts
- Sleek barrel with soft touch surface and coloured shrink sleeve
- Improved ground solder lug for ease soldering

NF2C-B2

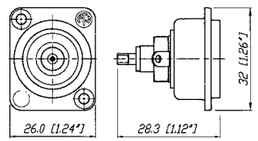


Phono Socket

NF2D-4 NF2D-B-6

- Makes ground before signal contact and breaks signal before ground
- No more disturbing noise and broken speaker cones
- Precisely machined to our demanding quality standards
- Gold plated contacts

NF2D-*



* available in 9 colours see page 49

Specification		Profi®	Phono Socket
Electrical			
Rated current per contact:	16 A rms continuous	●	●
Rated insulation voltage:	50 V ac	●	●
Insulation resistance:		> 100 GΩ	< 5 GΩ
Dielectric strength:		1.5 kV dc	0.5 kV dc
Capacitance (pin to shell):		7 pf	9 pf
Mechanical			
Life time (mating cycles):	> 2000	●	●
Cable O.D. range:	3.0 - 7.3 mm	●	-
Wiring:	soldering	●	●
Max. wire size :	2.5 m² / 14 AWG	●	-
Cable anchoring:	Neutrik® chuck type strain relief	●	-
Material			
Housing:	Brass (CuZn39Pb3)	●	-
	Zinc diecast (ZnAlCu1)	-	●
Insert:	PBTP 20% GR	●	-
Contacts:	Brass (CuZn39Pb3)	●	●
Contact plating:	5 µm Au plated over 5 µm Ni	●	●
Chuck:	Polyacetal (POM)	●	-
Environment			
Temperature range:	-30°C to +80°C	●	●
Protection class:	IP 40	●	●
Flammability:	UL 94 HB	●	●
Solderability:	complies with IEC 68-2-20	●	●

Ordering Information

Phono Profi®

NF2C-B2	Professional "phono Plug" (RCA or CINCH type), two plugs with red and black coding, two strain relief chucks for a second cable diameter

Phono (RCA) Socket

NF2D-*	Chassis Phono (RCA) socket in D Shape housing
NF2D-B-*	Chassis Phono (RCA) socket in black D Shape housing
	* color coding: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White

Accessories

NDP	Dummy plug for phone socket
NZP1RU	Panel 1RU D-shape housing
SCL	Plastic sealing cover to protect the connector sockets 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, IP54 rated

Loudspeaker Connectors

Content

Introduction

The Neutrik speakON Series, known in the professional audio industry as "The loudspeaker connector" has become the state of the art in speaker and amplifier connectivity. Introduced in 1987 speakON was invented by Neutrik as a result of customer demand for a reliable speaker connection. The pro audio market quickly realized the advantages of this completely new connection system.

The design is optimized for loudspeaker applications with an outstanding cost-performance ratio. As market leader for speaker connections we are proud to offer an all-encompassing product line for the specific needs of today's market. Recent designs such as the STX series and the speakON Combo offer solutions for nearly every speaker application.

Integrated Design

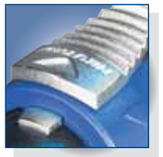
One of Neutrik's goals is to create products that are easily distinguished from other manufacturers. We have successfully achieved this in our engineering efforts as well as the patent and trademark protection granted for our unique products. To further establish a clear difference between Neutrik and our competitor's products we give our customer the means to easily identify original Neutrik products. Therefore all of our new products such as the SPX and the STX series are designed according to the protected integrated design. (EU-Pat.: DM/057 379, US-Pat. Pending, CHINA-Pat.: 02305192.2/193.0/194.9/195.7)

Features & Benefits

Today's speakON series is a result of a continuous product improvement process. The principal idea has been kept and optimized with material and design modifications over the years.

A traditional speakON stands for:
- Reliable and robust, easy and fast to assemble
- 2, 4 and 8-pole cable and chassis connectors in various versions
- Optimal "Quick Lock" system for speaker applications
- Neutrik® proven and unique chuck type cable strain relief
- Outstanding cost-performance ratio
- De facto standard
- Meets all Worldwide Safety requirements (IEC, UL, ...)

Beyond that, the latest designs as the SPX and STX series offer:
- Up to 50 Amps current rating
- Only 3 parts with 1 piece strain relief design for even easier assembly
- Convertable right-angle version
- Weatherproof and extremely robust



Quick lock

Chuck type strain relief

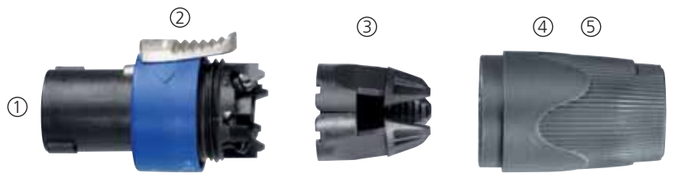
Right angle conversion

speakON SPX Series 4 Pole Cable Connector

NL4FX

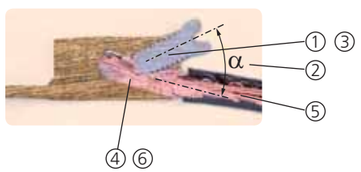
NL4FRX

- Up to 50 A current rating
- Only 3 parts, easy to assemble
- High Impact Materials

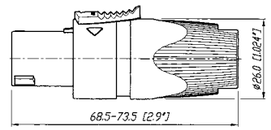


① Easy and extremely precise locking system "Quick Lock"
② Improved grip on latch
③ 1 piece strain relief, chuck for 8 to 14.5 mm cable O.D., with accessory NLRR 5-8 mm
④ Color coding possible
⑤ Integrated design guaranties "Made by Neutrik®"

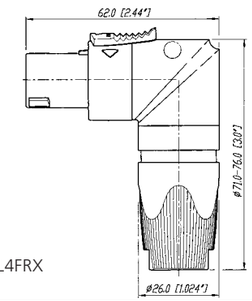
Improved SPX-Series screw contacts! (Wire position after assembly)



① Progressive clamping as wire is pushed forward
② Acts as screw locking device due to side forces
③ Large combi drive - M4 screw
④ Wire size 1.5 - 4 mm² (AWG 12) for 6 mm² (AWG 10) remove screw & solder
⑤ Pull out force > 300 N @ 80 cNm
⑥ Gas tight connection



NL4FX



NL4FRX

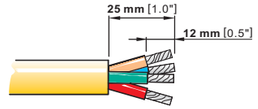
Design Criteria

This second generation of speakON connectors features higher current rating for the operation of high power speakers and amplifiers carrying more than 1000 Watts. Only 3 parts make it fast and easy to assemble with a more reliable performance.

Our unique design makes it possible to change easily and quickly from a straight connector to the right-angle version, even without disconnecting the cable.

Assembly

Prepare cable as shown.



HINT:

For easy wiring especially of thick cables, first screw on the inner contacts 1+ and 2+ and afterwards the outer contacts 1- and 2- !

Use screwdriver Pozidrive #1 only.

Ordering Information

NL4FX	Cable Connector with chuck and bushing
NL4FX-2	Cable Connector with chuck and red bushing
NL4FX-4	Cable Connector with chuck and yellow bushing
NL4FX-5	Cable Connector with chuck and green bushing
NL4FX-9	Cable Connector with chuck and white bushing
NL4FRX	Right-angle Cable Connector with chuck and bushing

Accessories

LCR-*

LRX

LCR-*	Coloured coding rings for the right-angle version of the SPX Series. Available in blue (Standard), white, red, green and yellow.
LRX	Right-angle speakON Conversion Kit for changing the straight connector into a right-angel version without removing the cable from the insert.
NLRR	Strain relief reduction ring for NL4FX for thin loudspeaker cables with an O.D. of 5 to 8 mm

*: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White; Must be ordered in multiples of 100.

Locking ring

Quick lock

speakON FC Cable Connector Series

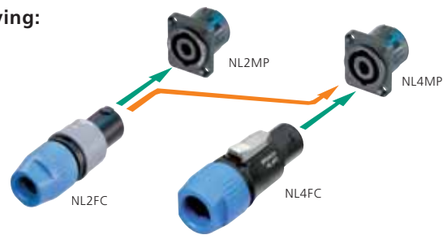
NL2FC

NL4FC

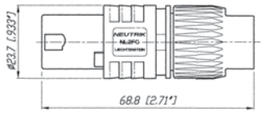
NL8FC

- 4 pole - Branded with unique hologram - guarantees genuine and authentic Neutrik product
- Up to 30 A rms current rating
- Glass reinforced materials for housing and inserts
- Unique Neutrik® chuck type strain relief
- Precise keyway for secure mating
- Accurate twist lock latching system
- 4 pole in new design with more ergonomic latch

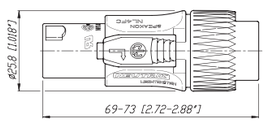
Keying:



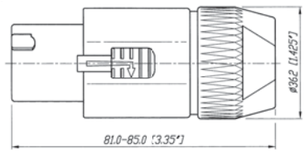
NL2FC



NL4FC



NL8FC



Ordering Information

NL2FC	2 pole Cable Connector with locking ring, integrated cable clamp, intermates with 4-pole chassis connector and makes contact with +1/-1
NL4FC	4 pole Cable Connector with latch lock
NL8FC	8 pole Cable Connector with latch lock
Accessories	
BSL-*	Coloured bushing for NL4FC
BSL-WR	Weather resistant dripboot

*: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White; Must be ordered in multiples of 100.

1/4" Jack adapter

Extention coupler

speakON Adapter

NA4LJX

NL4MMX

NL8MM

NL4MMX

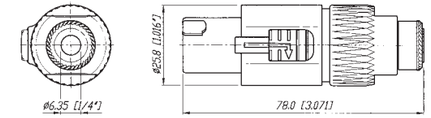
Features permanent secure connection on a speakON cable connector using 2nd lock.

Secure Lock!

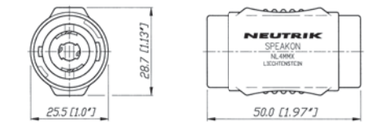
NL4MMX + NL4FX
(locked on the cable)

Changes gender to male when permanently locked on the cable.

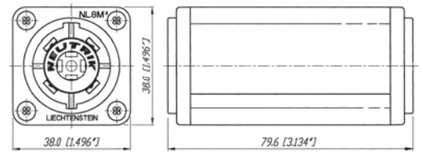
NA4LJ



NL4MMX



NL8MM



Ordering Information

NA4LJX	Adapter from speakON Cable Connector to 2 pole 1/4" Jack, wiring: +1 to TIP and -1 to SLEEVE
NL4MMX	4 pole lockable coupler to extend two 4-pole cables
NL8MM	8 pole coupler to extend two 8-pole cables

Reinforced locking area

Nickel housing

3/16" flat tabs

Vertical PCB mount

speakON Chassis Connector

NL2MP

NL4MD-H-1

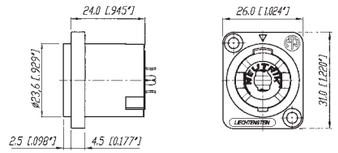
NL4MD-H-3

NL4MPR

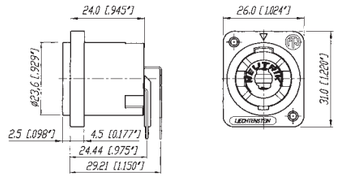
NL8MPR

- Standard version up to 30 A rms, ultra high current version up to 50 A audio current
- Glass reinforced materials
- Precise keyway for secure mating
- Accurate twist lock latching system
- Metal front plate (8-pole) or metal insert in locking area (2 & 4-pole)
- Various mounting and wiring possibilities
- "Air tight design", optimized for speaker applications
- D or G panel cutouts to be easily mounted on audio industry standard panels
- 4 pole branded with unique hologram

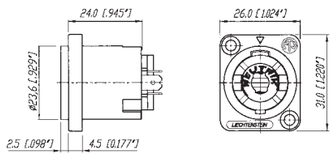
NL4MD-V



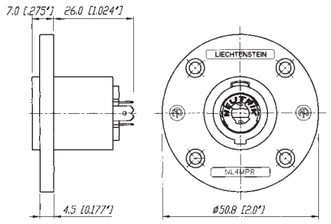
NL4MD-H



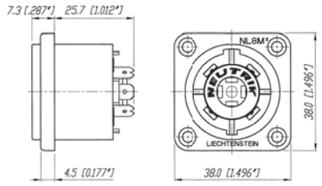
NL4MP



NL4MPR

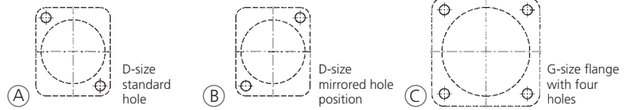


NL8MPR

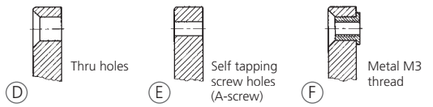


Ordering Information

Flange layout:



Hole layout:



	Pole	Flange size	Flange layout	Hole layout	Color	Wiring	Remarks
NL2MP	2	D-size	A	D	black	3/16" flat tabs*	Does not intermate with 4-pole cable connector
NL2MD-H	2	D-size	A	D	black	horizontal PCB	Does not intermate with 4-pole cable connector
NL2MD-V	2	D-size	A	D	black	vertical PCB	Does not intermate with 4-pole cable connector
NL4MP	4	D-size	A	D	black	3/16" flat tabs*	
NL4MP-1	4	D-size	A	E	grey	3/16" flat tabs*	
NL4MP-2	4	D-size	B	E	black	3/16" flat tabs*	
NL4MP-3	4	D-size	A	E	black	3/16" flat tabs*	
NL4MP-M3	4	D-size	A	F	black	3/16" flat tabs*	
NL4MD-H	4	D-size	A	E	grey	horizontal PCB	
NL4MD-H-1	4	D-size	A	D	black	horizontal PCB	
NL4MD-H-2	4	D-size	B	E	black	horizontal PCB	
NL4MD-H-3	4	D-size	A	E	black	horizontal PCB	
NL4MD-V	4	D-size	A	D	black	vertical PCB	
NL4MD-V-1	4	D-size	A	E	grey	vertical PCB	
NL4MD-V-2	4	D-size	B	E	black	vertical PCB	
NL4MD-V-S	4	D-size	A	E	black	vertical PCB	switched contacts
NL4MP-ST	4	D-size	A	D	black	screw terminal	
NL4MP-UC	4	D-size	A	D	black	1/4" flat tabs*	Ultra high current, up to 40 A rms
NL4MPR	4	round G-size flange	C	D	black	3/16" flat tabs*	
NL8MD-V	8	square G-size flange	C	D	Ni	vertical PCB	
NL8MD-V-BAG	8	square G-size flange	C	D	black chrome	vertical PCB	
NL8MD-V-1	8	square G-size flange	C	E	Ni	vertical PCB	
NL8MPR	8	square G-size flange	C	D	Ni	3/16" flat tabs*	
NL8MPR-BAG	8	square G-size flange	C	D	black chrome	3/16" flat tabs*	
NLT4MP	4	square G-size flange	C	D	nickel	1/4" flat tabs*	
NLT4MP-BAG	4	square G-size flange	C	D	black chrome	1/4" flat tabs*	
NLT4MD-V	4	square G-size flange	C	E	nickel	vertical PCB	
NLT4FP	4	square G-size flange	C	D	nickel	solder contacts	
NLT4FP-BAG	4	square G-size flange	C	D	black chrome	solder contacts	
NLT8MP	8	square G-size flange	C	D	nickel	1/4" flat tabs*	
NLT8MP-BAG	8	square G-size flange	C	D	black chrome	1/4" flat tabs*	

*: flat tabs to be used with FASTON® connectors or to solder the wire (FASTON® is a trademark of AMP Inc.)

Accessories

A-Screw-1-8

NLFASTON

MFD

NDL

SCL

SCDR

SCDX

A-Screw-1-8	Black self tapping PLASTITE® screw 2.9 x 8 for rear panel mount
NLFASTON	FASTON® receptacle for tabs with "positiv lock" for use with NL4MP, NL4MPR, NL8MPR, Pack of 100 pcs.
MFD	M3 mounting frame for D-size chassis
NDL	dummyPLUG for 2 & 4 Pole chassis connector
NZP1RU	Panel 1RU D-shape housing
SCL	Plastic sealing cover to protect the connectors against dust and moisture
SCDR	Rear end protection cover for D-size chassis connectors
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

PCB solder pins

Locking key

speakON Combo

NLJ2MD-V

Combines a Speakon® and 1/4" Phone Jack - one for two

- D-size flange
- Compatible PCB layout and panel mount to NL4MD-V-1 (NL4MD-H)
- Cost saving - combines two connectors in one housing
- Mates with all 2, 4-pole Speakon® and 1/4" Phone Plugs
- PA-wiring: 1+ is connected to TIP, 1- to the SLEEVE
- PCB layout of NLJ2MD-V is compatible with NL4MD-V and PCB layout of NLJ2MD-H is compatible with NL4MD-H

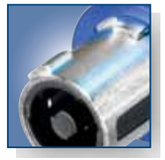
NLJ2MD-V

Ordering Information

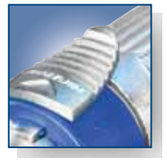
NLJ2MD-V	2 pole Chassis Connector, vertical PCB mount
NLJ2MD-H	2 pole Chassis Connector, horizontal PCB mount

Assessories

A-Screw-1-8	Black self tapping Plastite® screw 2.9 x 8 for rear panel mount
SCL	Plastic sealing cover to protect the connectors against dust and moisture
SCDX	D-size hinged cover
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
MFD	M3 mounting frame for D-size chassis
NZP1RU	Panel 1RU D-shape housing



Reinforced locking



Latch lock

XL-solder contacts

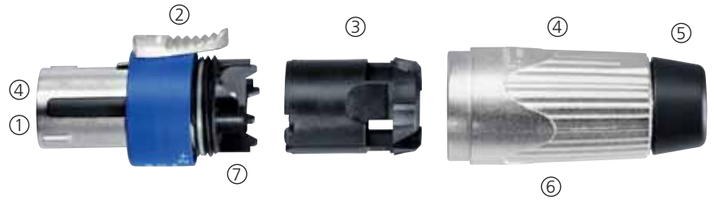
speakON STX Series Cable Connectors

NLT4FX-BAG

NLT4MX

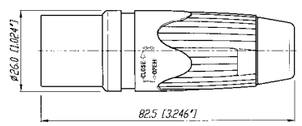
NLT8FX

- Up to 50 A current rating
- Only 3 parts, easy to assemble
- All metal housing
- IP 54 sealing gasket

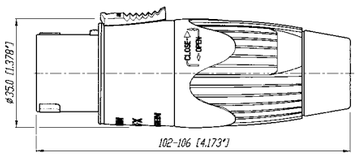


① Easy and extremely precise locking system "Quick Look", reinforced with metal
② Improved grip on latch
③ 1 piece strain relief, chuck for cables from 9 to 16 mm O.D.
④ Extreme rugged "Touring Approved"
⑤ Rubber sealing boot
⑥ Integrated Design garanties "Made by Neutrik®"
⑦ X-large solder contacts for up to 6 mm² (AWG 10) wires

NLT4FX



NLT8FX



Robust metal housing

XL-solder contacts

speakON® STX Series Chassis Connectors

NLT4FP-BAG

NLT4MP

NLT4MD-V

NLT8MP-BAG

- Extremely robust metal housing designed for harsh and demanding environment
- Weatherproof design features sealing gaskets
- 4 type range - also male cable connector and female receptacle on 4-pole version
- All-metal housing makes the STX Series rugged and durable
- Weatherproof built-in gasket meets IP 54 protection class (4 pole)
- Ideal product for touring applications and harsh environments
- Best electrical performance up to 50 Amps audio current
- Uses precise "Quick Lock" system
- Mates with all currently available speakON products
- 4 pole version has UL Recognized components, CSA listed

NLT4FP

NLT4MP

NLT8MP

Design Criteria

The new speakON STX Series is the next generation of 4 & 8 pole speakON connectors especially designed for loudspeaker - amplifier applications in harsh and demanding environment such as professional touring.
The STX Series features a metal housing which is extremely rugged and durable; built-in gaskets make it weatherproof. This new series offers beside the female cable connector and male receptacle now also a 4 pole male cable and female chassis connector.

Ordering Information

Cable Connectors

NLT4FX	4 pole female cable connector,nickel metal housing, chuck and bushing
NLT4FX-BAG	4 pole female cable connector, black-chrome metal housing, chuck and bushing
NLT4MX	4 pole male cable connector, nickel metal housing, chuck and bushing
NLT4MX-BAG	4 pole male cable connector, black-chrome metal housing, chuck and bushing
NLT8FX	8 pole female cable connector, nickel metal housing, chuck and bushing
NLT8FX-BAG	8 pole female cable connector, black-chrome metal housing, chuck and bushing

Receptacles

NLT4FP	4 pole female chassis connector, nickel metal housing, solder contacts
NLT4FP-BAG	4 pole female chassis connector, black-chrome metal housing, solder contacts
NLT4MP	4 pole male chassis connector, nickel metal housing, 1/4" flat tabs*
NLT4MP-BAG	4 pole male chassis connector, black-chrome metal housing, 1/4" flat tabs*
NLT4MD-V	4 pole male chassis connector, nickel metal housing, PCB contacts
NLT8MP	8 pole male chassis connector, nickel metal housing, 1/4" flat tabs*
NLT8MP-BAG	8 pole male chassis connector, black-chrome metal housing, 1/4" flat tabs*

*: flat tabs to be used with FASTON® connectors or to solder the wire (FASTON® is a trademark of AMP Inc.)

Accessories

A-Screw-1-8

SCNLT

Example: SCNLT + NL4MP

SCL

NDL

A-Screw-1-8	Black self tapping Plastite® screw 2.9 x 8 for rear panel mount
SCNLT	Gasket for NLT4MP
	(To make a cabinet with an Amphenol EP cutout airtight, use the rubber sealing which covers the entire hole.)
SCL	Plastic sealing cover to protect the connectors against dust and moisture
NDL	dummyPLUG for 4 Pole chassis connector

Specification		SPX Series Cable Con.	STX Series Cable Con.	speakON FC Cable Con	speakON Chassis + Combo	Adapter	STX Series Chassis
Electrical							
Number of contacts:		4	4 + 8	2, 4, 8	2, 4, 8	2, 4, 8	4 + 8
Rated current per contact:	40 A rms continuous	●	●	30 A	30 A**	15 A	●
	50 A audiosignal, duty cycle 50%	●	●	40 A	40 A	30 A	●
Combo:	15 A rms continuous	-	-	-	●	-	-
Rated insulation voltage:	250 V ac	●	●	●	●	●	●
Contact resistance after lifetime:	< 2 mΩ	●	●	≤ 3	≤ 3	≤ 3	●
Insulation resistance after dampheat:	> 1 GΩ	●	> 10 GΩ	●	●	●	> 10 GΩ
Dielectric strength:	4 kV peak	●	●	●	●	●	●
1/4" Jack:	1.5 kV peak	-	-	-	-	●	-
Mechanical							
Locking System:	Quick lock (latch)	●	●	●	●	●	●
Life time (mating cycles):	> 5`000	●	●	●	●	●	●
Cable O.D. range: (mm)	2 Pole	-	-	6 - 10	-	-	-
	4 Pole	7 - 14.5	-	5 - 15	-	-	-
	8 Pole	-	8 - 20	8 - 20	-	-	-
Wiring:	screw type terminals	4 mm² (AWG 12)	-	4 mm² (AWG 12)	● (ST)	-	-
	soldering	6 mm² (AWG 10)	6 mm² (AWG 10)	4 mm² (AWG 12)	●	-	●
	flat tabs for 3/16" FASTON® (4.8 x 0.5 mm)	-	-	-	●	-	-
	flat tabs for 1/4" FASTON® (6.3 x 0.8 mm)	-	-	-	● (UC)	-	●
	PCB-version	-	-	-	●	●	●
Insertion / withdrawal force:	Combo Jack: ≤ 20 N / > 10 N	-	-	-	-	●	-
Cable retention force:	≥ 220 N*	●	●	●	-	-	-
Material							
Housing:	Polyamide PA 6 30% GR	-	-	●	●	●	-
	PBTP 20% GR	●	-	-	-	-	-
	Zinc diecast (ZnAlCu1)	-	●	-	-	-	●
Insert:	Polyamide PA 6 30% GR	-	●	-	-	●	●
	PBTP 20% GR	●	-	●	-	-	-
Contacts:	Brass (CuZn39Pb3)	●	●	●	-	-	-
	Bronze (CuSn6)	-	-	-	●	●	-
	Spring copper	-	●	-	● (UC)	-	●
Contact plating:	4 µm Ag	●	●	●	●	●	●
Locking Element:	Zinc diecast (ZnAl4Cu1)	●	●	●	-	-	● (FP)
Chuck:	Polyacetal (POM)	●	●	●	-	-	-
Bushing:	Polyamide (PA 6 15% GR)	●	●	●	-	-	-
Environment							
Temperature range:	-30°C to +80°C	●	●	●	●	●	●
Protection class:	IP 54 (mated condition)	-	●	-	-	-	●
	IP 52 (8-pole, mated cond.)	-	●	-	-	-	●
Flammability:	UL94HB	●	●	●	●	●	●
Safety Requirements:	EN/IEC 61984	●	●	●	●	●	●
Approvals:	UL-Recognized, CSA listed	●	4 pole	●	●	●	4 pole
Solderability:	complies with IEC 68-2-20	●	●	●	●	●	●

*: subject to cable O.D. and material

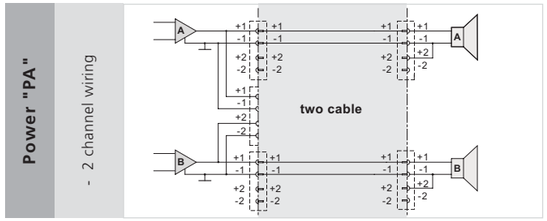
**: NL4MD-V-S - Rated current per contact: 20A

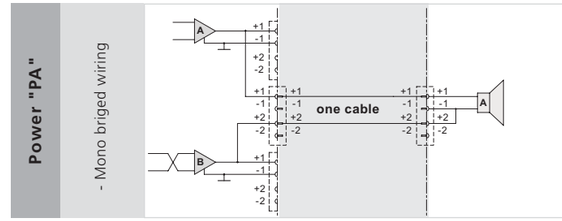
Wiring Suggestion

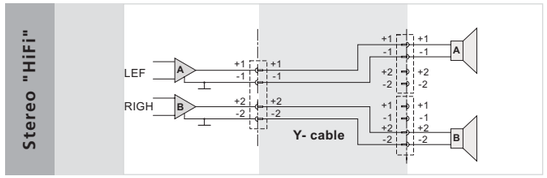
Positive signal on speaker pin "+" produces positive wave-form from driver (moves cone outwards)

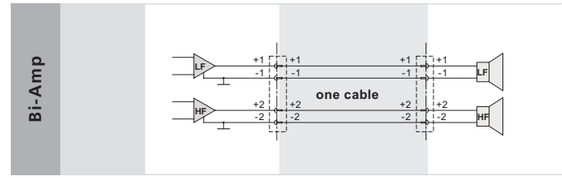
"+" = In phase (high) "-" = Ground (out of phase, low)
Lower numbers for lower frequencies.

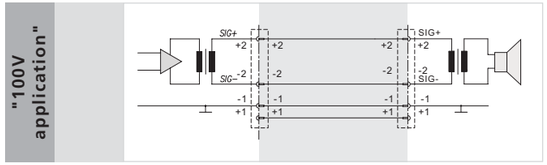
	AMPLIFIER	CABLE	SPEAKER
Stereo ("HiFi")	one NL4MP socket left channel pins 1+/1- right channel pins 2+/2-	NL4FC on amplifier end, four conductor cable splits into two pairs with NL4FX on each end	one NL4MP per speaker left speaker pins 1+/1- right speaker pins 2+/2-
POWER ("PA") Standard	three NL4MP sockets "A" socket: left channel pins 1+/1- "B" socket: right channel pins 1+/1-	a two-conductor cable for each channel with NL4FX on both ends	NL4MP pins 1+ to speaker coil "+" NL4MP pins 1- and 2+ to speaker coil "-"
Bridged mono	"M" socket: left channel pins 1+/1- right channel pins 2+/2-	a special two-conductor cable, on both ends wired to pin 1+/2+ of NL4FX	NL4MP pin 1+ to speaker coil "+" NL4MP pins 1- and 2+ to speaker coil "-"
Bi-Amp	one NL4MP socket low frequency pins 1+/1- high frequency pins 2+/2-	a four-conductor cable on both ends wired to pins 1+/1-, 2+/2- of NL4FX	one NL4MP socket low frequency pins 1+/1- high frequency pins 2+/2-
4 Way System	one NL8MPR socket low frequency pins 1+/1- low mid frequency pins 2+/2- high mid frequency pins 3+/3- high frequency pins 4+/4-	an eight-conductor cable wired on both ends to pins 1+/1-, 2+/2-, 3+/3-, 4+/4- of NL8FC	one NL8MPR socket low frequency pins 1+/1- low mid frequency pins 2+/2- high mid frequency pins 3+/3- high frequency pins 4+/4-











Data Connectors

Content

Introduction

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 >70m (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.

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 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 highes reliability and helps to minimize different connection standards with an innovative TRIPLE-SPLIT 12-channel solution.

opticalCON DUO

Rugged metal housing

Cable drum

Rear LC connection

Sealing shutters

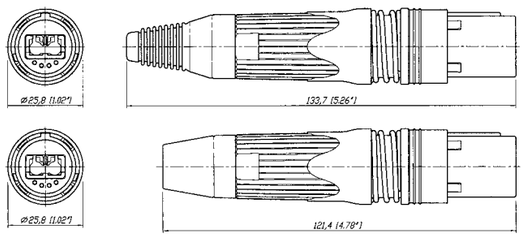
Chassis with transceiver adapter and SFP transceiver

Cable Connector Assembly

NKO2S-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 5 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

NKO2M-4S75*

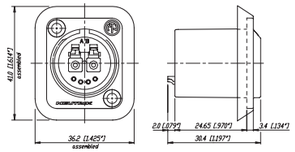


Chassis Connector

NO2-4FDW

- Suggested OEM connectors due to LC front compatobility
- Accommodates standard LC connectors on the rear for simple installation
- Designed as feedthrough with automatic sealing shutter
- Shutter with silcone 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

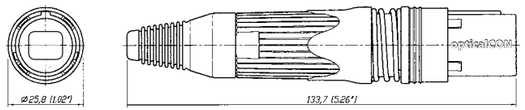
Cable Connector Assembly

NKO4M

NKO12S*
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)

NKO4

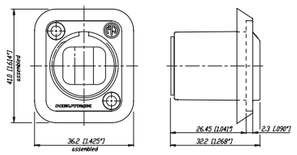


Chassis Connector

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

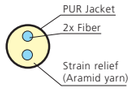
Optical			opticalCON 2		opticalCON 4	
			Cable	Chassis	Cable	Chassis
Optical connector			LC-Duplex	LC-Duplex Feedthrough	PC	LC-Duplex (rear)
Fiber		M, SM PC, SM APC	●	●	●	●
Insertion loss		< 0.5 dB / connection	●	●	●	●
Mechanical						
Insertion / withdrawal force		< 45 N	●	●	●	●
Lifetime		> 1`000 cycles	●	●	●	●
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".

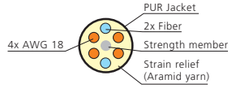
Technical Data Fiber Cables

		2M	2S / 2SA	2M-4S75	2S-S1 / 2SA-S1	4M	4S / 4SA	XM	12S / 12SA
Attenuation:	@ 850 nm	3		2.5					
dB/km	@ 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	
MHz-km	@ 1300 nm	500		500		1200		1200	
x	@ 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

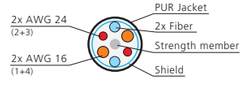
Technical Data Mobile Cables opticalCON DUO



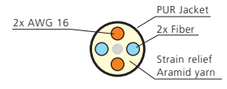
2M / 2S / 2SA



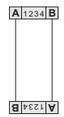
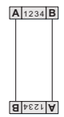
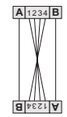
2M-4S75



2S-S1 / 2SA-S1

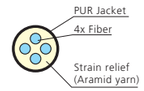


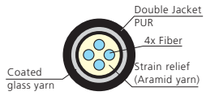
2S-S5 / 2SA-S5

			HYBRID		
	2M	2S / 2SA	2M-4S75	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 (0.75mm²)	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
Overal 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					

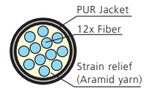
Technical Data Mobile Fiber Cables opticalCON QUAD

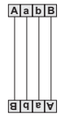
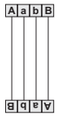
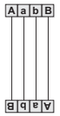
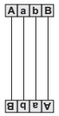
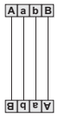
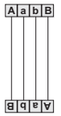
opticalCON QUAD X-TREME





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
Overal 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						

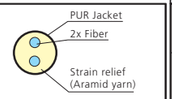
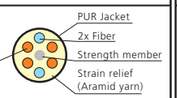
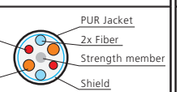
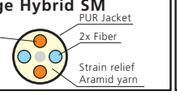
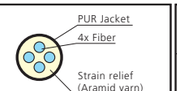
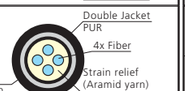
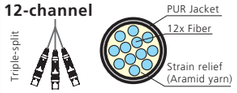
Ordering Information

Coding of Mobile Cables

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

NKO 2M - 4S75 - R 3 - 50 (Example)

- NKO: NEUTRIK opticalCON cable assembly
- 2M: Cable
- 4S75: Plating
- R: Packaging
- 3: Cable length [m]
- 50: 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
	Low Voltage Hybrid SM 	2S (PC) 2SA (APC)	- S5	-	●	●	●	-	●	-	●	< 2000	< 30	-	< 150	< 450
opticalCON QUAD	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
		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)

Ordering Information

Accessories

NEW


NAO2S-4S75W

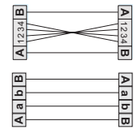

NAO4MW


NAO2SA-SFP-LC


opticalCON with transceiver adapter and SFP tranceiver


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 mm²
NAO2S-4S75W	blue	black	2 x LC-Duplex Singlemode PC	4 x 0.75 mm²
NAO2SA-4S75W	green	black	2 x LC-Duplex Singlemode APC	4 x 0.75 mm²
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

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


LC emergency repair for opticalCON DUO

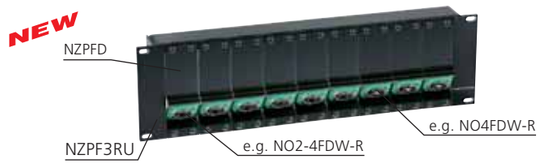
NEW


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	Panel1RU 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

Example of etherCON RJ45 Data Connector.

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 achived on the CAT5 version by assembling the waterproof kit SE8FD while CAT6 versions are IP65 rated as standard.

Neutrik® etherCON receptacles comply with CAT5e (IDC versions) or Class D (PCB versions), shielded or unshielded according to TIA / EIA 568B and ISO / EC 11801 standard.

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

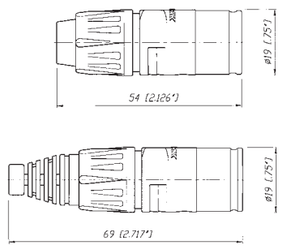
Cable Carriers

NE8MC

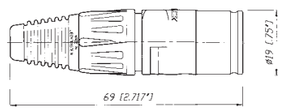
NE8MC-1 + BSE*

- 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



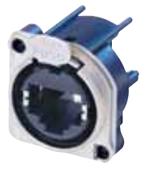
Horizontal PCB

Vertical PCB

IDC Terminals

Receptacles

NE8FAV + ACRF-2



NE8FBH

NE8FAV-YK

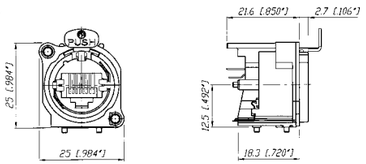
NE8FDV

NE8FDV-Y110-B

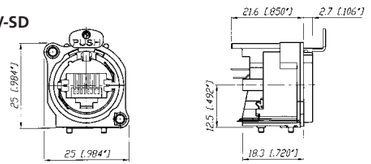
NE8FDH-C5E

- "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)

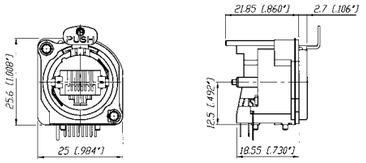
NE8FAV



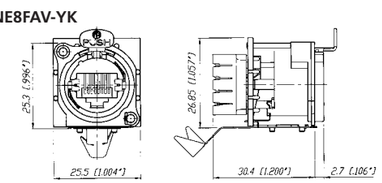
NE8FAV-SD



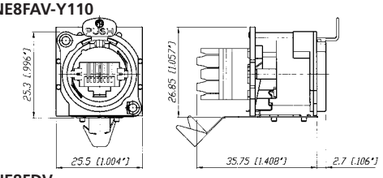
NE8FBH



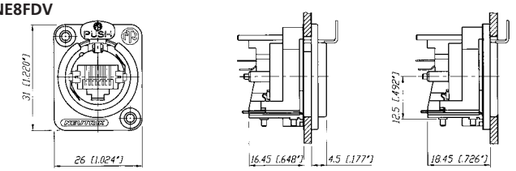
NE8FAV-YK



NE8FAV-Y110



NE8FDV



Completely closed housing

Light pipe

NE8FDP rear side

Locking latch

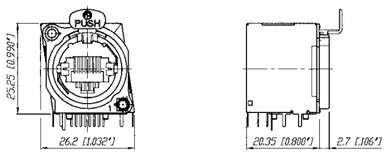
Shielded & Lighted

NE8FBH-S

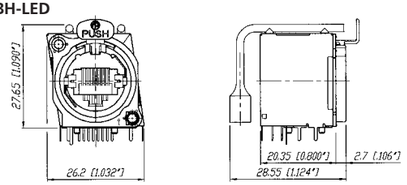
NE8FBH-LED

- 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

NE8FBH-S



NE8FBH-LED



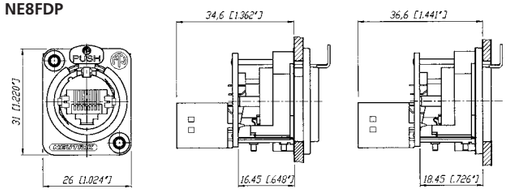
Feedthrough

NE8FDP

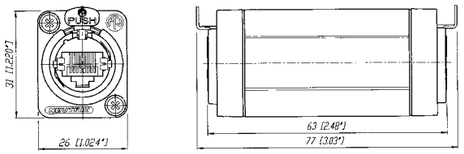
NE8FF

- 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

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

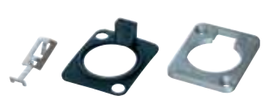
NE8FDP	Receptacle (includes 2 mounting screws)
NE8FF	Coupler

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 Colinox plating and sealing gasket)

D-shape metal shell

Closed shielding

Push Pull locking

IP65 in mated condition

CAT6 Receptacles

NE8FDY-C6

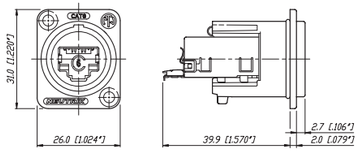
NE8FDY-C6-B

CAT6 Patch Cable

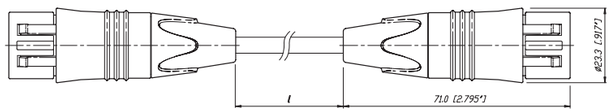
NKE6S-*

- 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

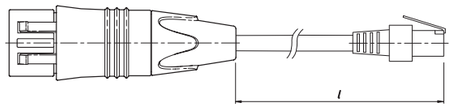
NE8FDY-C6



NKE6S-*



NKE6S-*-WOC



etherCON CAT6

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

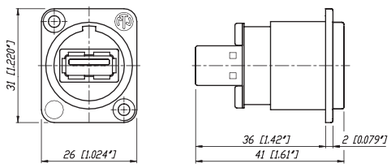
USB type B

USB Receptacle

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



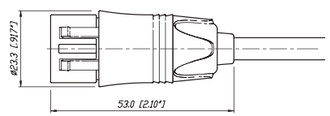
USB Patch Cable

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



Availability: commencing November 2009

Technical Data

Mechanical and Electrical			Receptacle	Patch Cable
Conform with USB 2.0 Standard			●	●
Material				
Shell	Zinc diecast (ZnAl4Cu1)	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

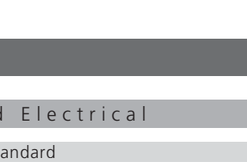
NAUSB-W	USB A – USB B Adapter (reversible), sealing ring, optional grounding, nickel housing
NAUSB-W-B	USB A – USB B Adapter (reversible), sealing ring, optional grounding, black housing

Patch Cable

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

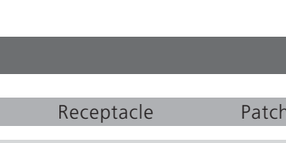
Accessories

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

D-shape metal housing

HDMI 1.3a receptacle

Push Pull locking

HDMI 1.3a

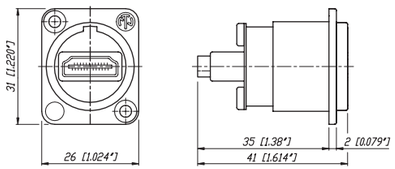
HDMI Receptacles

NEW

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



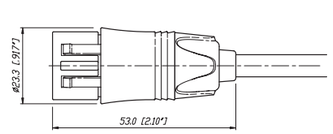
HDMI Patch Cable

NEW

NKHDMI-*

- HDMI 1.3a - data rate up to 3.5 GBit/s
- Dust and water resistant sealing in combination with NAHDMI-W*
- 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

NKHDMI-*

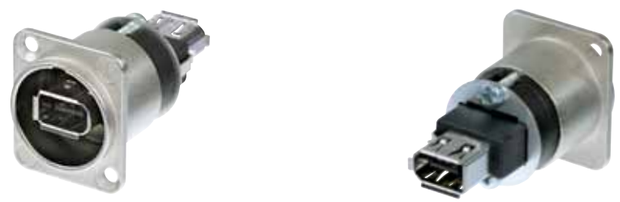


Availability: commencing November 2009

D-shape metal housing

IEE 1394 receptacle

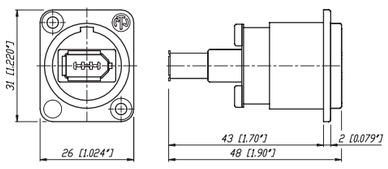
Firewire Receptacle



NA1394-6-W

- Ideal for audio networking and integration of digital equipment into audio systems
- Firewire feedthrough adapter with 6-pole IEEE 1394receptacle 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)	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

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

BNC Connectors

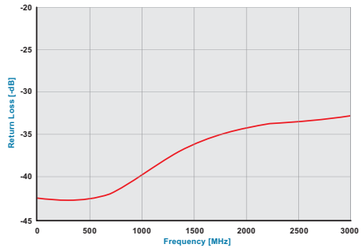
Content Page

NEUTRIK® 75Ω BNC Connectors

Neutrik® offers a variety of 75 Ω cable and chassis BNC connectors. The pushPULL and rearTWIST cable connectors are easy to handle in high density applications such as video patchbays and switches, provide a tactile and fast assembly and offer colour coding as a standard. All parts of our BNC series are precisely machined to our high quality standards.

True 75Ω HDTV Connectors

With the introduction of HD signals the impedance of BNC connectors becames more important than ever. Every deviate impedance has a negative influence on the „return loss“ / „VSWR“ (Voltage Standing Wave Ratio) which are important measurements for reflected signals in a transmission line. Especially on high frequencies - as they occur when transmitting HD signals (typical transmission @ 2.25 GHz) - an impedance mismatch results in a lot of return loss.



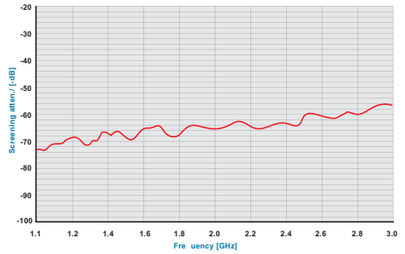
Frequ. [GHz]	RL [dB]
1	39.83
2	34.17
3	32.82

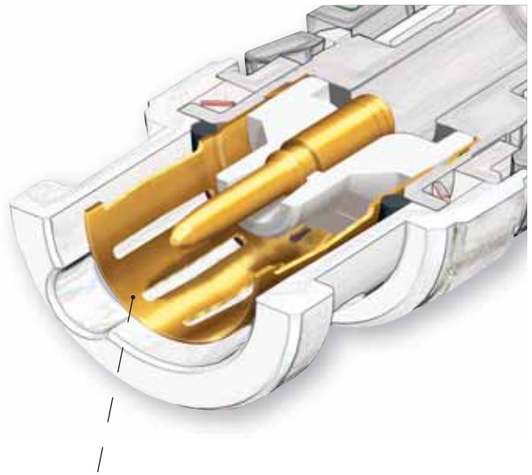
Neutrik´s BNC connectors feature a true 75 Ω design that meet the stringent requirements of HDTV and sustain a consistent impedance at high frequencies up to 3 GHz. To achieve this result every Neutrik® BNC connector has been adapted to the measurements of a small group of cables, this guarantees the best possible performance and a little return loss.

The higher the frequencies the more pronounced is the „skin effect“, which means that the energy moves to the outside of the conductor. Therefore the plating of outer and center contact is more important than on audio connectors with low frequencies - both contacts of our BNC connectors are gold plated.

Neutrik BNCs - enhanced high frequency shielding!

In times of rising frequencies the connector shielding becomes to an important value in order to avoid EMI problems and crosstalking. Neutrik BNC's take this fact into account and has been equipped with an optimized ground contact design for maximum shielding effectiveness.





Gold plated ground contact with improved shielding effectiveness optimized for high frequency HDTV signal up to 3 GHz.

Bayonet locking

Gold plated contacts

Female cable jack

rearTWIST (Standard, Large & Tiny) and Cable Jacks

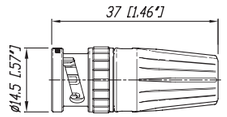
NBTC75BLI4

NBNC75BLP7

NBNB75GLP9

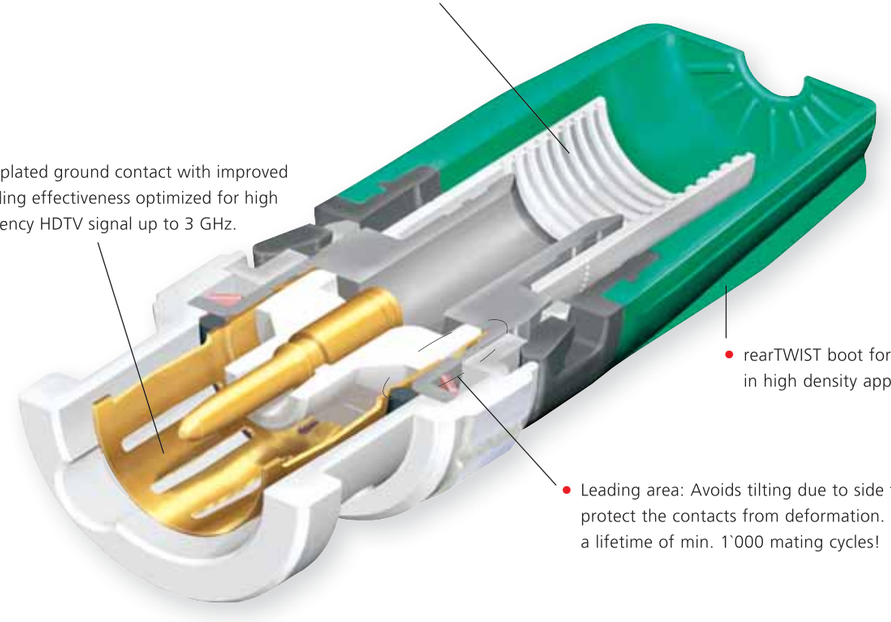
NBTB75CFI4

- "rearTWIST Principle" locking/unlocking using the easily accessible soft touch boot (Patent DE 100 48507)
- Ideal for recessed bulkheads where access to the "head" of the connector might be an issue. These connectors turn from the back and not the front.
- True 75 Ω design meets the stringent HDTV / DVD requirements
- Snug-fit center pin insert provides tactile feedback
- Shield and jacket crimp technology prevents the problem of an exposed grounding braid on cable assemblies
- Excellent cable protection and retention
- Large version for RG 11 cable
- Precise Swiss machined brass parts for outstanding durability
- Accessories include color coded boots in 10 standard colours, crimp tool and dies
- Sleek female cable jack e.g. for Y-cables
- Mountable panel version of cable jack for fixed installations



Features & Benefits

- Screen and cable jacket crimp instead of screen crimp only. Grooved inner surface holds the cable jacket to prevent tearing braids.
- Gold plated ground contact with improved shielding effectiveness optimized for high frequency HDTV signal up to 3 GHz.



- rearTWIST boot for easy access in high density applications.
- Leading area: Avoids tilting due to side forces to protect the contacts from deformation. Guarantees a lifetime of min. 1`000 mating cycles!

Neutrik BNC:
no tilting due to side pull

Other BNC

Push Pull locking

Gold plated contacts

pushPULL Cable Connectors

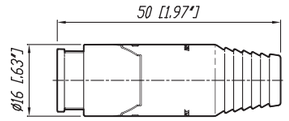
NBNC75PTS11

NBNC75PNS7

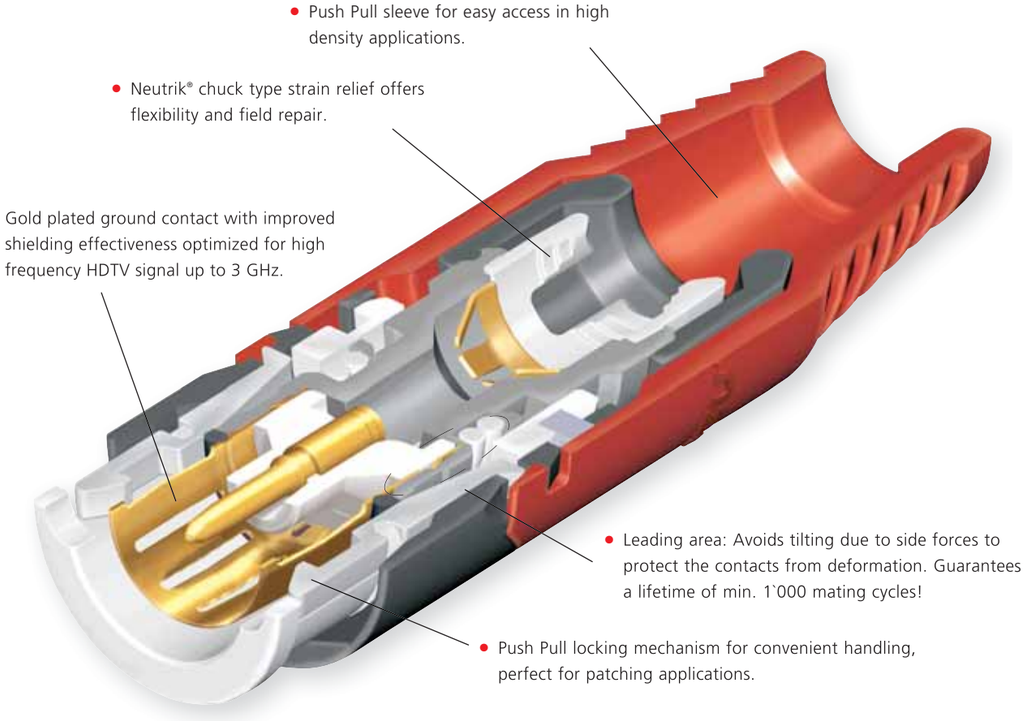
NBNC75PIE9

NBNC75PLS9

- Unique Push-Pull locking system is ideal for ultra high density applications, patching, etc.
- True 75 Ω design meets the stringent HDTV / DVD requirements
- Excellent return loss / VSWR data
- Precision machined parts
- Assembly is fast and easy and requires only a standard center contact crimp after cable preparation
- Reusable due to screw lock strain relief
- Snug-fit center pin insert provides tactile feedback
- Only pin crimp, this eliminates the need of different crimp dies and facilitates field repair
- Innovative screw lock cable retention for easy assembly
- Accessories include colour coded boots in 10 standard and 3 translucent colours



Features & Benefits



Cable to Connector Guide

Belden

	pushPULL	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm
1277R, 1278R, 1279R			NBTC75BNN5			4.53
1406B, 1407B, 1417B			NBTC75BVV5			5.00
1426A, 1505A (ANH)	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
1505F	NBNC75PLS9	NBNC75BJP9				6.47
1506A	NBNC75PIE9	NBNC75BIJ9				5.41
1520A, 1521A, 1522A, 179DT			NBTC75BFI4	NBTB75CFI4		4.06
1694A (ANH)	NBNC75PTS11	NBNC75BTU11				7.36
1694F	NBNC75PTS11	NBNC75BTY11				8.23
1695A	NBNC75PQS11	NBNC75BQP11				6.47
1855A	NBNC75PDE6	NBNC75BDD6				4.53
1865A			NBTC75BXX6			5.00
1855ENH	NBNC75PFE7	NBNC75BFG7				5.00
7731A (ANH)		NBLC75BVZ17				9.73
8218			NBTC75BXX5			5.00
8241	NBNC75PNS7	NBNC75BLP7				6.47
8241F	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
8281		NBNC75BXY9				8.23
8281F		NBNC75BYY9				8.23
9221			NBTC75BLI4			4.06

CANARE

L-4CFB	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
L-5CFB		NBNC75BYY11				8.23
LV-61S	NBNC75PNS7	NBNC75BLP7				6.47
LV-77S		NBNC75BYY9				8.23
V(3-5)-3C	NBNC75PGE7	NBNC75BGG7				5.00
V(3-5)-4CFB	NBNC75PLE9	NBNC75BJJ9				5.41
V(3-5)-5C	NBNC75PVS9	NBNC75BRS9				7.01
V(3-5)-5CFB	NBNC75PVS11	NBNC75BWS11				7.01
L-1.5C2VS			NBTC75BLI4			4.06

COMMSCOPE

2065V	NBNC75PIE9	NBNC75BIJ9				5.41
2279V	NBNC75PQS11	NBNC75BQP11				6.47
5563	NBNC75PNS7	NBNC75BLP7				6.47
5565	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
5765	NBNC75PTS11	NBNC75BTU11				7.36
7536 (03-05)			NBTC75BXX6			5.00
7538	NBNC75PDE6	NBNC75BDD6				4.53

CANFORD

SDV-M	NBTC75BNN5	NBTB75CNN5				4.53
SDV, SDV-X, SDM	NBNC75PFE7	NBNC75BFG7				5.00
SDV-L, SDV-F	NBNC75PVS11	NBNC75BWS11				7.01
SDV-HD		NBLC75BVZ17				9.73
SDV-F-HD		NBNC75BWU13				7.36
VCS (BBC PSF1/3)	NBNC75PNS7	NBNC75BLS7				7.01

DRAKA MULTIMEDIA CABLE

0.31 / 1.45 AF, 753-1304(2), 755-1302			NBTC75BFI4	NBTB75CFI4		4.06
0.41 / 1.9 AF, 753-1104, 755-1103, 755-1101			NBTC75BNN5	NBTB75CNN5		4.53
0.51 / 2.3 Dz, 757-1001, VADN 7243		NBTC75BVX6				5.00
0.6 / 2.8 AF, 0.6 L / 2.8 AF	NBNC75PFE7	NBNC75BFG7				5.00
0.6 / 3.7, 0.6L / 3.7	NBNC75PNS7	NBNC75BLP7				6.47
0.6 / 3.7 Dz	NBNC75PNS7	NBNC75BLS7				7.01
0.8 / 3.7 AF, 755-801(803, 804)	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
0.8 / 4.9 Dz		NBNC75BXY9				8.23
1.0 / 4.8 AF, 755-901/5	NBNB75PTS11	NBNC75BUU11			NBNB75GUU11	7.36
1.2L / 4.8Dz, 1.2L / 4.95AF		NBNC75BWU13				7.36
1.4 / 6.6 AF		NBLC75BSX14				9.73
1.6 / 7.3AF		NBLC75BVZ17				9.73

SUHNER

	pushPULL	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm
G02233			NBTC75BFI4	NBTB75CFI4		4.06
G04233D	NBNC75PNS7	NBNC75BLS7				7.01
S02223			NBTC75BLI4			4.06
S04233, S04263	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
S05133-07	NBNC75PTS11	NBNC75BTU11				7.36
S05163-02	NBNC75PTS11	NBNC75BTU11				7.36

OTHERS

AT&T 735			NBTC75BSS5			4.53
COMM-TEC RGBHV			NBTC75BSS5			4.53
Argosy Image 360		NBNC75BFG7				5.00
Argosy Image 720		NBNC75BLP9				6.47
Argosy Image 1000	NBNC75PTS11	NBNC75BUU11			NBNB75GUU11	7.36
BBC PSF 1/3*	NBNC75PNS7	NBNC75BLS7				7.01
BESCA France - Bengat			NBTC75BNS4			4.53
CAE MC75			NTBC75BLI5	NBTB75CLI5		4.06
CAE MC75.39			NBTC75BVX6			5.00
CAE KX6A	NBNC75PNS7	NBNC75BLP7				6.47
CAE VCB75	NBNC75PNS9	NBNC75BNP9				6.47
CAE VCB 100		NBNC75BXU13				7.36
Cordial CVI 3-7	NBNC75PFE7	NBNC75BFG7				4.53
Cordial CVI 06-28	NBNC75PFE7	NBNC75BFG7				5.00
Cordial CVI (CVM) 06-37	NBNC75PNS7	NBNC75BLP7				6.47
COVID CVD 1300-1500			NBTC75BLI5	NBTB75CLI5		4.06
Eupen 705 CRT 5V-HS	NBNC75PTS11	NBNC75BTS11				7.36
Extron BNC-5HR			NBTC75BNN5	NBTB75CNN5		4.53
Extron BNC-5RC	NBNC75PGE7	NBNC75BFG7				5.00
GEPCO VPM2000	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
GEPCO VSD2001	NBNC75PTS11	NBNC75BTU11				7.36
Helix 734	NBNC75PNS9	NBNC75BNP9				6.47
Helix 735			NBTC75BSS5			4.53
Hirschmann KOKA 712Cu	NBNC75PTS9	NBNC75BTS9				6.47
Kansai 0.5M3C-2V	NBNC75PGE7					-
Kansai 3C-5S	NBNC75PFE6	NBNC75BFH6				5.00
KLOTZ V06/28, VMXx75Y	NBNC75PFE7	NBNC75BFG7				5.00
KLOTZ V06/37	NBNC75PNS7	NBNC75BLP7				6.47
KLOTZ V10/48	NBNC75PTS11	NBNC75BUU11			NBNB75GUU11	7.36
KLOTZ V16/72		NBLC75BVZ17				9.73
KROSCHU (341 270, 341 280)			NBTC75BLI4			4.06
Nexans HF 75 0.6/2.9 02YS(ST)CH		NBNC75BFG7				5.00
Nexans HF 75 1.6/7.2 02Y(ST)C(ST)H		NBNC75BVZ17				9.73
Nexans HF 75 0.6/3.7 2YCY		NBNC75BLP7				6.47
RG11		NBLC75BVZ17				9.73
RG59B/U	NBNC75PNS7	NBNC75BLP7				6.47
RG179B/U			NBTC75BLI4			4.06
SOMMER 600-0051 (M/L/S)	NBNC75PNS7	NBNC75BLP7				6.47
SOMMER 600-0054 (M/L/S)	NBNC75PNS7	NBNC75BLP7				6.47
SOMMER 600-0101M	NBNC75PFE7	NBNC75BFG7				5.00
SOMMER 600-0104M	NBNC75PFE7	NBNC75BFG7				5.00
SOMMER 600-162(F)	NBNC75PLS9	NBNC75BLP9				6.47
SOMMER 600-025* -03 (05)			NBTC75BLI5	NBTB75CLI5		4.06
SOMMER 600-0701			NBTC75BLI5	NBTB75CLI5		4.06
SOMMER 600-020* -03 (05)			NBTC75BLI5	NBTB75CLI5		4.06
SOMMER 600-0451	NBNC75PLS9	NBNC75BLP9			NBNB75GLP9	6.47
SOMMER 600-0751			NBTC75BVX6			5.00
Wisi MK 99A	NBNC75PVS12	NBNC75BWS12				7.01
ZNK CM14B			NBTC75BFI4	NBTB75CFI4		4.06

* Registered trademark of BBC

Connector to Cable Guide

	Pin crimp mm (square)	Hex crimp mm	Inner Conductor	Insulator	Cable O.D.	Cable Type
pushPULL						
NBNC75PDE6	1.6	N / A	< 0.6	< 2.65	4.0 - 5.0	Belden 1855A; CommScope 7538
NBNC75PFE6	1.6	N / A	< 0.6	< 2.85	4.0 - 5.0	Kansai 3C-5S
NBNC75PFE7	1.6	N / A	< 0.7	< 2.85	4.0 - 5.0	Belden 1855ENH; Cordial CVI 06-28, CVI 3-7; Canford SDM, SDV, SDV-X, SDV-LFH; Draka 0.6/2.8 AF, 0.6L/2.8 AF; Sommer 600-0101M, 600-0104M, KLOTZ V06/28, VMXx75Y
NBNC75PGE7	1.6	N / A	< 0.7	< 3.2	4.0 - 5.0	Canare V(3-5)-3C; Extron BNC-5RC
NBNC75PIE9	1.6	N / A	< 0.9	< 3.5	4.0 - 5.0	Belden 1506A; CommScope 2065V
NBNC75PLE9	1.6	N / A	< 0.9	< 3.65	4.0 - 5.0	Canare V(3-5)-4CFB
NBNC75PLS9	1.6	N / A	< 0.9	< 3.65	6.0 - 7.0	Belden 1505A (ANH), Belden 1505F; 8241F; CommScope 5565; Canare L-4CFB; Draka 0.8/3.7 AF, 755-801 (803,804); Gepco VPM2000; Suhner S04263; Sommer 600-0451, 600-162(F), 804)
NBNC75PNS7	1.6	N / A	< 0.7	< 3.75	6.0 - 7.0	Belden 8241; BBC PSF 1/3, CAE KX6A; Canford VCS; CommScope 5563; Cordial CVI (CVM) 06-37; Suhner G04233D; Canare LV-61S; RG59B/U; Draka 0.6/3.7, 0.6/3.7 Dz, 0.6L/3.7; Sommer 600-0051 (M,L,S), 600-0054 (M,L,S); KLOTZ V06/37
NBNC75PNS9	1.6	N / A	< 0.9	< 3.75	6.0 - 7.0	CAE VCB75; Helix 734
NBNC75PQS11	1.6	N / A	< 1.1	< 4.3	6.0 - 7.0	Belden 1695A; CommScope 2279V
NBNC75PTS9	1.6	N / A	< 0.9	< 4.6	6.0 - 7.0	Hirschmann KOKA 712Cu
NBNC75PTS11	1.6	N / A	< 1.1	< 4.6	6.0 - 7.0	Belden 1694A (ANH), 1694F; CommScope 5765; Draka 1.0/4.8 AF, 755-901/5, Argosy (Draka) Image 1000; Eupen 705 CRT 5V-HS; Gepco VSD2001; Suhner S05133-07 S05163-02, KLOTZ V10/48
NBNC75PVS9	1.6	N / A	< 0.9	< 4.9	6.0 - 7.0	Canare V(3-5)-5C
NBNC75PVS11	1.6	N / A	< 1.1	< 4.9	6.0 - 7.0	Canare V(3-5)-5CFB; Canford SDV-F, SDV-L
NBNC75PVS12	1.6	N / A	< 1.2	< 4.9	6.0 - 7.0	Wisi MK 99A
rearTWIST						
NBLC75BVZ17	1.75 (Hex crimp)	9.73	< 1.7	< 8.0	< 10.4	Belden 7731A (ANH); Canford SDV-HD; Draka 1.6/7.3AF; KLOTZ V16/72; RG11; Nextans HF 75 1.6/7.2 02Y(ST)C(ST)H
NBLC75BSX14	1.75 (Hex crimp)	9.73	< 1.4	< 6.6	< 9.5	Draka 1.4 / 6.6 AF
NBNC75BDD6	1.6	4.53	< 0.6	< 2.8	< 4.3	Belden 1855A; CommScope 7538
NBNC75BFG7	1.6	5.00	< 0.7	< 3.1	< 4.7	Argosy (Draka) Image 360; Belden 1855ENH; Canford SDM, SDV, SDV-X, SDV-S-LFH; Cordial CVI 06-28, CVI 3-7; Draka 0.6/2.8 AF, 0.6L/2.8 AF; Extron BNC-5RC; Sommer 600-0101M, 600-0104M; KLOTZ V06/28, VMXx75Y; Nexans HF 75 0.6/2.9 02YS(ST)CH
NBNC75BFH6	1.6	5.00	< 0.6	< 3.1	< 4.9	Kansai 3C-5S
NBNC75BGG7	1.6	5.00	< 0.7	< 3.2	< 4.7	Canare V(3-5)-3C
NBNC75BIJ9	1.6	5.41	< 0.9	< 3.6	< 5.3	Belden 1506A,;CommScope 2065V
NBNC75BJJ9	1.6	5.41	< 0.9	< 3.8	< 5.3	Canare V(3-5)-4CFB
NBNC75BJP9	1.6	6.47	< 0.9	< 3.8	< 6.3	Belden 1505F
NBNC75BLP7	1.6	6.47	< 0.7	< 3.8	< 6.3	Belden 8241; CAE KX6A; Canare LV-61S; Cordial CVI (CVM) 06-37; CommScope 5563; Draka 0.6/3.7, 0.6L/3.7 ; RG59B/U; Sommer 600-0051 (M,L,S), 600-0054 (M,L,S), KLOTZ V06/37; Nextans HF 75 0.6/3.7 2YCY
NBNC75BLP9	1.6	6.47	< 0.9	< 3.8	< 6.3	Argosy (Draka) Image 720; Belden 1505A (ANH), 8241F; Canare L-4CFB; CommScope 5565; Draka 0.8/3.7 AF, 755-801 (803, 804); Gepco VPM2000; Suhner S0426; Sommer 600-0451, 600-162(F)
NBNC75BLS7	1.6	7.01	< 0.7	< 3.8	< 6.9	BBC PSF 1/3; Canford VCS; Draka 0.6/3.7 Dz, 755-801 (803, 804); Suhner G04233D (PTT 6010)
NBNC75BNP9	1.6	6.47	< 0.9	< 4.1	< 6.3	CAE VCB75; Helix 734
NBNC75BQP11	1.6	6.47	< 1.1	< 4.5	< 6.3	Belden 1695A; CommScope 2279V
NBNC75BRS9	1.6	7.01	< 0.9	< 4.8	< 6.9	Canare V(3-5)-5C
NBNC75BTS9	1.6	7.01	< 0.9	< 4.7	< 6.9	Hirschmann KOKA 712Cu
NBNC75BTS11	1.6	7.01	< 1.1	< 4.7	< 6.9	Eupen 705 CRT 5V-HS
NBNC75BTU11	1.6	7.36	< 1.1	< 4.7	< 7.3	Belden 1694A (ANH); CommScope 5765; Gepco VSD2001; Suhner S05163-02, 05133-07
NBNC75BUU11	1.6	7.36	< 1.1	< 4.7	< 7.3	Belden 1694A; CommScope 5765; Gepco VSD2001; Suhner S05163-02, 05133-07; Argosy (Draka) Image 1000
NBNC75BTY11	1.6	8.23	< 1.1	< 4.7	< 8.0	Belden 1694F
NBNC75BWS11	1.6	7.01	< 1.1	< 5.1	< 6.9	Canare V(3-5)-5CFB; Canford SDV-L, SDV-F
NBNC75BWS12	1.6	7.01	< 1.2	< 5.1	< 6.9	Wisi MK 99A
NBNC75BWU13	1.6	7.36	< 1.4	< 5.1	< 7.3	Canford SDV-F-HD; Draka 1.2L/4.8Dz, 1.2L/4.95AF
NBNC75BXU13	1.6	7.36	< 1.4	< 5.1	< 7.3	CAE VCB 100
NBNC75BXY9	1.6	8.23	< 0.9	< 5.1	< 8.0	Belden 8281; Draka 0.8/4.9Dz
NBNC75BYY9	1.6	8.23	< 0.9	< 5.2	< 8.0	Belden 8281F; Canare LV-77S
NBNC75BYY11	1.6	8.23	< 1.1	< 5.2	< 8.0	Canare L-5CFB
rearTWIST TINY						
NBTC75BFI4	1.6	4.06	< 0.4	< 1.6	< 2.9	Belden 1520A, 1521A, 1522A, 179DT; Draka 0.31/1.45 AF, 753-1304(2), 755-1302; Suhner G02233, ZNK CM14B
NBTC75BLI4	1.6	4.06	< 0.4	< 1.8	< 2.9	Canare L-1.5C2VS; Suhner S02223; Kroschu (341 270, 341 280); RG 179 B/U; Sommer 600-025-03 (05)
NBTC75BLI5	1.6	4.06	< 0.5	< 1.8	< 2.9	CAE MC75; Procom; Sommer 600-0701, 600-20-03 (05), 600-025-03 (05)
NBTC75BNN5	1.6	4.53	< 0.5	< 2.0	< 3.1	Belden 1277R, 1278R, 1279R; Canford SDV-M; Draka 0.41/1.9AF, 753-1104, 755-1103; Extron BNC-5 HR(P) (Bulk), BNC-5RC
NBTC75BNS4	1.6	4.53	< 0.4	< 2.0	< 3.5	TESCA France - Bengale
NBTC75BSS5	1.6	4.53	< 0.5	< 2.3	< 3.4	AT&T 735; CommTech RGBHV
NBTC75BVV5	1.6	5.00	< 0.5	< 2.5	< 3.8	Belden 1406B, 1407B, 1417B
NBTC75BVX6	1.6	5.00	< 0.6	< 2.5	< 4.0	CAE NC75.39; Draka 755-1001 (0.51/2.3Dz), 757-1001; Sommer 600-0751; VADN 7243
NBTC75BXX5	1.6	5.00	< 0.5	< 2.6	< 4.0	Belden 8218
NBTC75BXX6	1.6	5.00	< 0.6	< 2.6	< 4.0	Belden 1865A; CommScope 7536
CABLE JACKS (TINY & PANEL VERSION)						
NBTB75CFI4	1.6	4.06	< 0.4	< 1.6	< 2.9	Belden 1520A, 1521A, 1522A, 179DT; Draka 0.31/1.45 AF, 753-1304(2), 755-1302; Suhner G02233; ZNK CM14B
NBTB75CNN5	1.6	4.53	< 0.5	< 2.0	< 3.1	Canford SDV-M; Draka 0.41/1.9 AF, 753-1104, 755-1101; 755-1103; Extron BNC 5 HR(P) (Bulk)
NBTB75CLI5	1.6	4.06	< 0.5	< 1.8	< 2.9	CAE MC75; Sommer 600-0701, 600-20-03 (05), 600-025-03 (05)
NBNB75GLP9	1.6	6.47	< 0.9	< 3.8	< 6.3	Belden 1505A, 8241F; Canare L-4CFB; CommScope 5565; Draka 0.8/3.7 AF, 755-801 (803, 804); Gepco VPM2000; Suhner S04263; Sommer 600-0451
NBNB75GUU11	1.6	7.36	< 1.1	< 4.9	< 7.3	Draka 1.0/4.8AF, 755-901/5, Argosy (Draka) Image 1000, KLOTZ V10/48
NBNB75ILP9	1.6	6.47	< 0.9	< 3.8	< 6.3	Belden 1505A, 8241F; Canare L-4CFB; CommScope 5565; Draka 0.8/3.7 AF, 755-801 (803, 804); Gepco VPM2000; Suhner S04263; Sommer 600-0451
NBNB75IUU11	1.6	7.36	< 1.1	< 4.9	< 7.3	Draka 1.0/4.8AF, 755-901/5, Argosy (Draka) Image 1000, KLOTZ V10/48

D-shape metal housing

Gold plated center pin

Bulkhead Jacks

NBB75FI

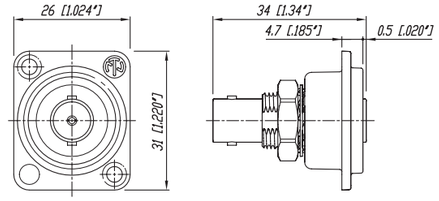
NBB75DFG

NBB75DFGB

NBB75SI

- True 75 Ω design meets the stringent HDTV / DVD requirements
- Isolated or grounded versions
- "D" shaped housing (provides flush mounting and protection of the jacks from damage) or single feed through mountings
- Gold plated center contact

NBB75DFG



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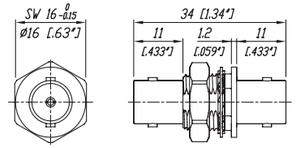


Ordering Information

	Nickel housing	Black housing
Bulkhead jack, D-shape housing, feed through, grounded	NBB75DFG	NBB75DFGB
Bulkhead jack, D-shape housing, feed through, isolated	NBB75DFI	NBB75DFIB
Bulkhead jack, D-shape housing, solder version, grounded	NBB75DSG	NBB75DSGB
Bulkhead jack, D-shape housing, solder version, isolated	NBB75DSI	NBB75DSIB
Bulkhead jack, feed through, grounded	NBB75FG	
Bulkhead jack, feed through, isolated	NBB75FI	
Bulkhead jack, solder version, including isolationwashers	NBB75SI	

Specifications		rearTWIST & rearTWIST Large & Cable Jack Panel	rearTWIST Tiny & Cable Jack Tiny	pushPULL	Bulkheads
Electrical					
Impedance	75 Ω	●	●	●	●
Rated voltage	500 V ac rms	●	250 V ac rms	●	●
Insulation resistance	> 5 GΩ	●	●	●	●
Dielectric withstanding voltage	1500 V ac rms	●	750 V ac rms	●	●
VSWR / Return Loss	≤ 1.050 / > 32 dB up to 1 GHz ≤ 1.065 / > 30 dB up to 2 GHz ≤ 1.100 / > 26 dB up to 3 GHz	● ● ●	≤ 1.10 / > 26 dB up to 1 GHz ≤ 1.14 / > 24 dB up to 2 GHz ≤ 1.22 / > 20 dB up to 3 GHz	● ● ●	≤ 1.03 / > 37 dB up to 1 GHz ≤ 1.05 / > 32 dB up to 2 GHz ≤ 1.08 / > 28 dB up to 3 GHz
Inner contact resistance	≤ 3 mΩ (initial)	●	●	●	●
Outer contact resistance	≤ 2 mΩ (initial)	●	●	●	●
Mechanical					
Cable anchoring	Jacket crimping	●	●	Neutrik® chuck principle	N / A
Cable O.D. range - Rear Twist Large	mm	4.0 - 7.7 10.3	2.5 - 3.8 -	4.0 - 8.0 -	N / A -
Center contact retention	> 30 N	●	●	●	-
Engagement force	< 25 N	●	●	< 20 N	●
Lifetime	1`000 mating cycles	●	●	●	●
Material					
Shell: Brass (CuZn39Pb3), Optalloy coated		●	●	●	●
PA6 (Push Pull only)		N / A	N / A	●	N / A
D-Shape housing: Zinc diecast (ZnAl4Cu1) gal Ni or black Cr plating		N / A	N / A	N / A	●
Ground contact:					
Bronze (CuSn6), 0.2 µm AuCo over 2 µm NiP15		●	●	●	-
Brass (CuZn39Pb3), OPTALLOY coated		-	-	-	●
Center contact:					
Brass (CuZn35Pb2), 0.2 µm AuCo or		●	●	●	-
Brass (CuZn39Pb3), 0.2 µm AuCo		-	-	-	●
Insulator: Teflon PTFE		●	●	●	●
Chuck: Polyacetal POM		N / A	N / A	●	N / A
Insulation Shell: Polyacetal POM		N / A	N / A	N / A	●
Environmental					
Temperature range	-30°C to +85°C	●	●	-30°C to +40°C	●
Solderability	Complies with IEC 68-2-20	●	●	●	N / A
Contact crimpability	Complies with IEC 60803 and IEC 60352-2	●	●	●	N / A

Innenkontakt

I.D. in mm	Materials	Plating	Coding Ring (# of rings on base of contact)
0.4	Brass (CuZn39Pb3)	2 µm AuCo	0
0.5	●	●	5
0.6	●	●	1
0.7	●	●	2
0.9	●	●	3
1.1	●	●	6
1.2	●	●	4
1.7	●	●	0

Colour Coded Accessories and Seals


BST-BNC-*


BS-BNC-*


DSS


SCF


SCDX


SCDP-*

BST-BNC-*	Standard boot for the rearTWIST BNCs in black, 9 different colours available.
BS-BNC-*	Boot for pushPULL BNCs in black, 9 different colours available, as well as 3 translucent variants.
DSS	Lettering plate for D Shape bulkheads.
SCF	Rubber sealing cover to protect the connector agains 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	Panel 1RU D-shape housing

Assembly Tools


CAS-BNC-T


HX-R-BNC


DIE-R-BNC-*


HT-BNC


HX-BNC


DIE-BNC-*

CAS-BNC-T	BNC tool case equipped with HX-R-BNC, PT-BNC:Plier tool, CS-BNC: Stripping tool
	Note: Dies have to be ordered separately
HX-R-BNC	Crimp tool, frame.
DIE-R-BNC-*	Crimp tool die for pin and shield for HX-R-BNC.
HT-BNC	Spanner tool for the pushPULL BNCs.
HX-BNC	Crimp tool, frame (heavy duty).
DIE-BNC-*	Crimp tool die for pin and shield for HX-BNC.

Crimp die assignment for HX-BNC

Crimp die	Hex crimp mm A	Hex crimp mm B	Hex crimp inch A	Hex crimp inch B	Center pin mm (square crimp)
DIE-BNC-CS	4.06	7.01	0.160	0.276	1.6
DIE-BNC-JD	5.41	4.53	0.213	0.178	1.6
DIE-BNC-PG	6.47	5.00	0.255	0.197	1.6
DIE-BNC-U	7.36	-	0.290	-	1.6
DIE-BNC-UG	7.36	5.00	0.290	0.197	1.6
DIE-BNC-Y	8.23	-	0.324	-	1.6

Crimp die assignment for HX-R-BNC

Crimp die	Hex crimp mm A	Hex crimp mm B	Hex crimp mm C	Hex crimp inch A	Hex crimp inch B	Hex crimp inch C	Center pin mm (square crimp)
DIE-R-BNC-PDC	6.47	4.53	4.06	0.255	0.178	0.160	1.6
DIE-R-BNC-PG	6.47	5.00	-	0.255	0.197	-	1.6
DIE-R-BNC-PJ	6.47	5.41	-	0.255	0.213	-	1.6
DIE-R-BNC-PS	6.47	7.01	-	0.255	0.276	-	1.6
DIE-R-BNC-PU	6.47	7.36	-	0.255	0.290	-	1.6
DIE-R-BNC-PY	6.47	8.23	-	0.255	0.324	-	1.6
DIE-R-BNC-Z	9.73	-	-	0.383	-	-	1.75 (Hex crimp)

Circular Connectors

Content

Introduction

The Neutrik® circular connector program is a range of metal, multi-pole connectors specifically designed for industrial applications. These series provide a variety of male and female cable connectors and receptacles that can be terminated by soldering and crimping or to printed circuit boards. An easy to use and reliable quick-lock system ensures a perfect connection and cannot be released accidentally. The circular connectors offer Neutrik® unique chuck type strain relief and reinforced housing for robust dependability.

The Neutrik® industrial connector range also features a unique power connector for single phase applications up to 32 Amps.

Further features are:
- Number of contacts is 1 to 12
- Self-locking system
- Robust all-metal housing
- Front or rear mounting
- Chuck and crimp type strain relief
- Gold plated contacts
- Solder or crimp termination
- Printed circuit board mounting
- Excellent shielding (crimp type strain relief)

The main areas of applications are in the measurement, test and control, automotive and machine tool industry as well as medical technique.

New quick lock

Neutrik hologram

Coupler for linking cables

powerCON - Locking 3 Pole Power Connectors

NAC3FCA

NAC3MPA

NAC3FCB NAC3MPB

NAC3MM

- Lockable 3 pole equipment (AC) connector with contacts for line, neutral and premating safety ground
- High current capacity, rated at 20A / 250V ac
- Colour coded for easy identification, powerCON offers power-in (blue) and power-out (grey) versions with different keying to avoid the possibility of intermating
- Fast and easy locking system
- Extremely robust and reliable
- Excellent cable retention
- UL, cUL recognized components (file no. E 135070) VDE certified (Reg. No. 6360), SEV approved (No. 96.1 10096)
- New latch design for easier handling and secure locking
- Branded with unique hologram - guarantees genuine and authentic Neutrik product
- Coupler for linking cables (couples NAC3FCA to NAC3FCB)

NAC3FCA(B)

NAC3MPA(B)

NAC3MM

Ordering Information

NAC3FCA	Cable connector, quick lock with securing lever, A-type for power inlet, screw terminals
NAC3MPA	Air tight chassis connector, A-type for power inlet, flat tab terminals
NAC3FCB	Cable connector, quick lock with securing lever, B-type for power outlet, screw terminals
NAC3MPB	Air tight chassis connector, B-type for power outlet, flat tab terminals
NAC3MM	Coupler for linking cables (couples NAC3FCA to NAC3FCB)

Accessories

NDL

NLFASTON

SCL

SCDR Example: NAC3MPA + SCDR

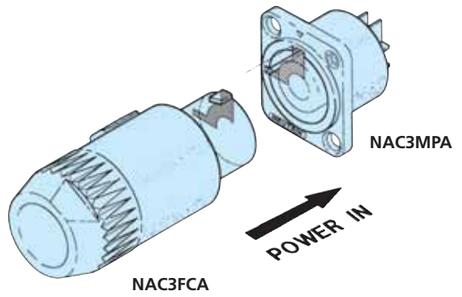
SCDX

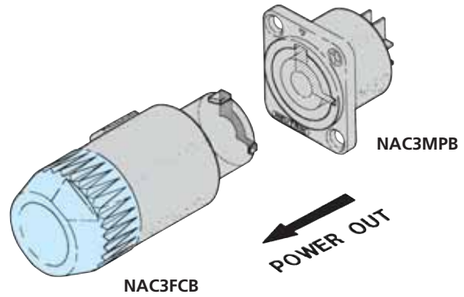
SCDP-*

NDL	dummyPLUG for powerCON 20 A chassis connector
NLFASTON	FASTON® receptacle for tabs with "positive lock" for use with NL4MP, NL4MPR, NL8MPR, Pack of 100 pcs.
SCL	Plastic sealing cover to protect the connectors against dust and moisture
SCDR	Rear end protection cover for D-size chassis connectors
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

KEYWAYS

With the two non-interchangeable types of connectors (A type and B type) it is impossible to produce a short circuit. Mating connectors (combination) are identified by mechanical keyways and by color.





ATTENTION

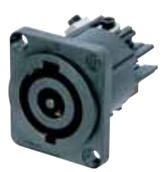
The technical data of the powerCON connectors refer to connectors without breaking capacity, meaning connecting devices not to be engaged and disengaged in normal use when live or under load.

Robust metal housing

Screw-type terminals

powerCON 32 Amp Connectors

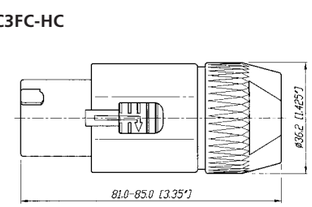
NAC3FC-HC



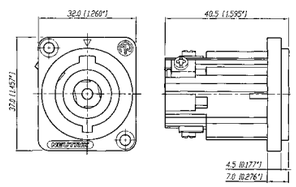
NAC3MP-HC

- Locking single phase AC appliance coupler
- High current capacity (32 A rated)
- Fast and easy locking system
- Excellent cable handling and protection
- Extremely robust and reliable
- 250 V ac, 32 Amp single-phase (for ambient temperatures up to 35°C)
- Premating contact for protective earth
- Locking system to prevent unintentional disengagement
- Cable O.D. Range: 8 - 20 mm
- Wiring with screw-type terminals for wires 2.5 to 6.0 mm² (AWG 14 - 10)

NAC3FC-HC

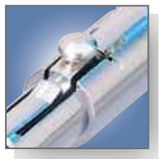


NAC3MP-HC



Ordering Information

NAC3FC-HC	Cable connector, quick lock with securing lever, screw terminals
NAC3MP-HC	Fast and easy locking system, screw-type terminals



Connector locking

PCB receptacle

nanoCON - 3 Pole Subminiature Connectors

NP3F-H

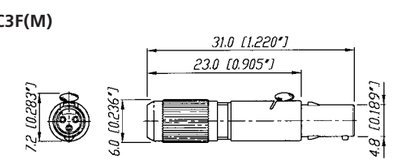
NSC3F

NR3M-S

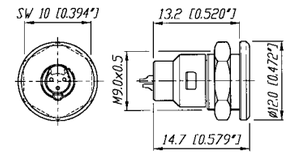
- World's smallest circular lockable multipole connector
- Robust metal housing with gold plated contacts
- Male and female receptacles for vertical or horizontal PCB mount or solder termination
- Cable connector and receptacle with interchangeable male and female inserts
- Reliable and versatile in applications like medical equipment, control systems, sensors or audio applications such as miniature and wireless microphones and portable mixers
- Pre-mating contact 1

M 1:1

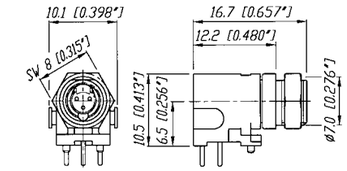
NSC3F(M)



NR3F(M)-S



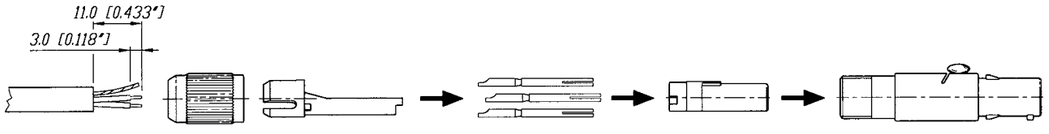
NP3F(M)-H



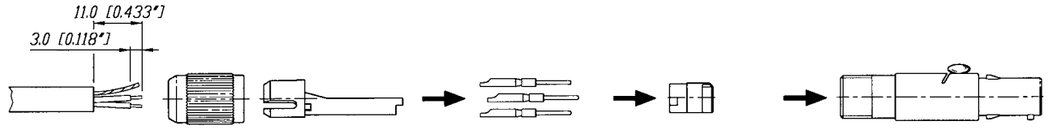
Ordering Information

Female		Male	
NSC3F	Cable connector, chuck principle, solder contacts	NSC3M	Cable connector, chuck principle, solder contacts
NR3F-S	Receptacle panel mount, solder contacts	NR3M-S	Receptacle panel mount, solder contacts
NP3F-H	Receptacle horizontal PCB mount	NP3M-H	Receptacle horizontal PCB mount
NP3F-V	Receptacle vertical PCB mount	NP3M-V	Receptacle vertical PCB mount

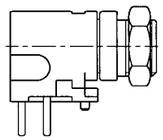
NSC3F



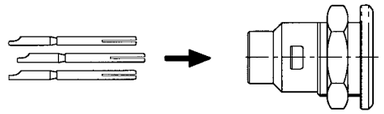
NSC3M



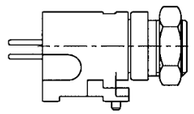
NP3F-H
NP3M-H



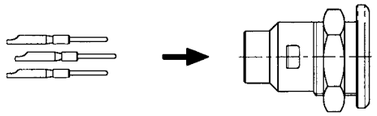
NR3F-S



NP3F-V
NP3M-V



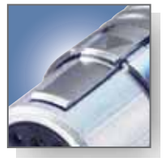
NR3M-S



Contact Arrangement

Stecker

Buchse



Push Pull locking

Gold solder contacts

miniCON - 12 Pole Miniature Connectors

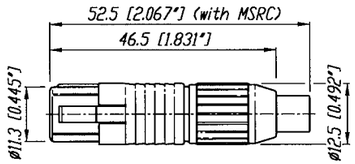
MSCM12

MRF12

MMC* (modular system)

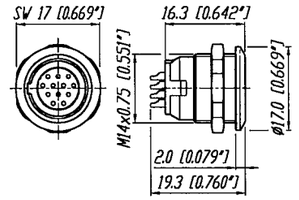
- Up to 12 pole miniature connector
- Complete set or modular system
- Push-pull self-locking system
- Precisely machined, rugged all metal design
- Fully loaded male and female receptacles for horizontal or vertical PCB mount
- Gold plated contacts, crimp or solder, velour chromium housing
- Special crimp type strain relief establishes an ideal coaxial connection of the cable shield to the connector shell for best EMC shielding
- Easy assembly: contact soldering in disassembled condition avoids awkward wiring of wight density contacts
- Interchangeable insert (male-female)

MSCF(M)12 (+MSRC)

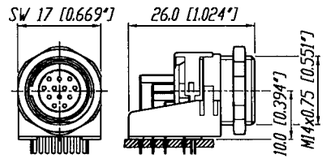


MPF(M)12-V

MRF(M)12



MPF(M)12-H

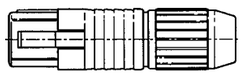


Ordering Information for complete miniCON set

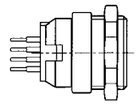
Complete set (consisting of housing, insert, 12 contacts and chuck for cable connector)

Female		Male	
MSCF12	Cable connector, chuck principle, solder contacts	MSCM12	Cable connector, chuck principle, solder contacts
MRF12	Receptacle panel mount, solder contacts	MRM12	Receptacle panel mount, solder contacts
MPF12-H	Receptacle horizontal PCB mount	MPM12-H	Receptacle horizontal PCB mount
MPF12-V	Receptacle vertical PCB mount	MPM12-V	Receptacle vertical PCB mount

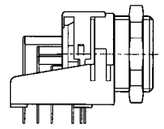
MSCF(M)12



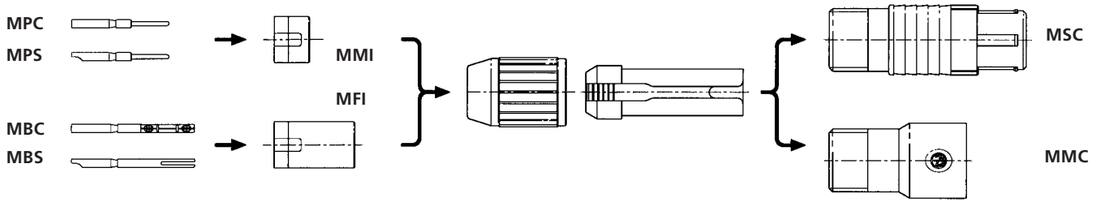
MPF(M)12-V

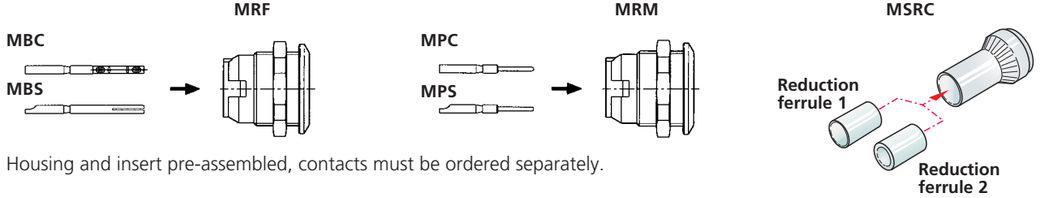


MPF(M)12-H



Ordering Information for modular miniCON system





Housing and insert pre-assembled, contacts must be ordered separately.

Modular system

Female		Male	
MFI	Insert for cable connector	MMI	Insert for cable connector
MBC	Crimp contacts for cable connector and receptacle	MPC	Crimp contacts for cable connector and receptacle
MBS	Solder contacts for cable connector and receptacle	MPS	Solder contacts for cable connector and receptacle
MRF	Receptacle housing and insert pre-assembled	MRM	Receptacle housing and insert pre-assembled
MMC	Cable connector extension, incl. chuck (for male and female)		
MSC	Cable connector housing, incl. chuck (for male and female)		
MSRC	Set of strain relief crimp version (consisting of crimp ferrule & reduction ferrule 1 + 2, tools see page 122)		

Push Pull locking

All metal housing

neutriCON - Versatile Circular Connectors

ORP8F-Ni

OSC8F

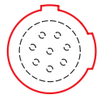
ORP8M

- Complete set or modular system for any desirable configuration
- Contact configuration can be selected from 1 to 8 contacts
- Special crimp type strain relief establishes an ideal circumferential connection of the cable shield to the connector shell as required by best EMC working practice
- Precise and robust all metal housing absorbs vibration forces and protects contact inserts
- Easy, fast and screwless assembly
- Push-pull self-locking system

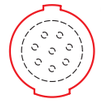
Polarization

Housing: Two variants of metal polarizing guides (90° and 180°).

Coding 90°

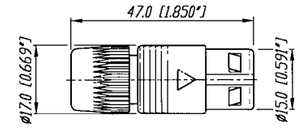


Coding 180°

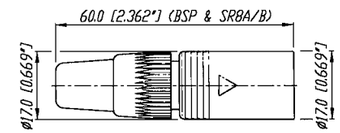


Insert: The male and female insert can be assembled in all three housings.

OSC8F / OSC8M

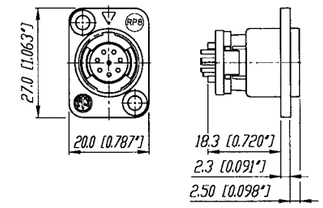


MODULAR SYSTEM



MC8 + SR8A/B + insert

ORP8F / ORP8M

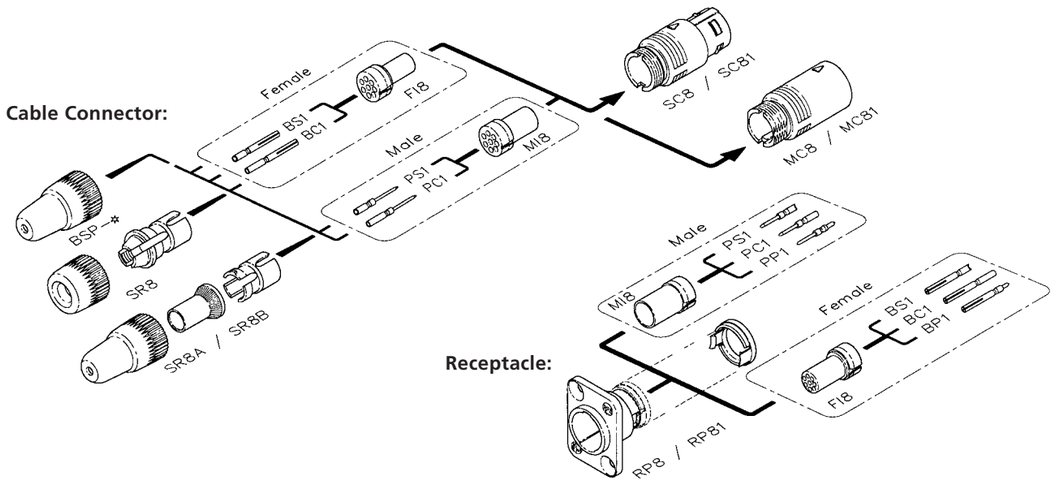


Ordering Information for complete neutriCON set

Complete set (consisting of housing, insert, 8 contacts and chuck for cable connector)

OSC8F	Female cable connector, chuck principle, black housing, solder contacts
OSC8F-Ni	Female cable connector, chuck principle, nickel housing, solder contacts
OSC8M	Male cable connector, chuck principle, black housing, solder contacts
OSC8M-Ni	Male cable connector, chuck principle, nickel housing, solder contacts
ORP8F	Female panel mount receptacle, black housing, solder contacts
ORP8F-Ni	Female panel mount receptacle, nickel housing, solder contacts
ORP8M	Male panel mount receptacle, black housing, solder contacts
ORP8M-Ni	Male panel mount receptacle, nickel housing, solder contacts

Ordering Information for modular neutriCON system



Modular system

Female		Male	
FI8	Insert for cable connector and receptacle	MI8	Insert for cable connector and receptacle
BS1	Solder contact	PS1	Solder contact
BC1	Crimp contact	PC1	Crimp contact
BP1	PCB contact	PP1	PCB contact
SC8	Cable housing, black coated, 180° coding	MC8	Mating cable housing, black coated, 180° coding
SC8-Ni	Cable housing, nickel coated, 180° coding	MC8-Ni	Mating cable housing, nickel coated, 180° coding
SC81	Cable housing, black coated, 90° coding	MC81	Mating cable housing, black coated, 90° coding
SC81-Ni	Cable housing, nickel coated, 90° coding	MC81-Ni	Mating cable housing, nickel coated, 90° coding
SC8W	Cable housing, black coated, 180° coding, waterproof multipin connector according IP54		
RP8	Receptacle, black coated, 180° coding		
RP8-Ni	Receptacle, nickel coated, 180° coding		
RP81	Receptacle, black coated, 90° coding		
RP81-Ni	Receptacle, nickel coated, 90° coding		
SR8	Bushing and chuck type strain relief (standard)		
SR8A	Crimp type strain relief for cable O.D. 3 - 3.8 mm (Hex crimp 5.41 mm acc. IEC 803, see also page 122)		
SR8B	Crimp type strain relief for cable O.D. 6 - 7 mm (Hex crimp 7.01 mm acc. IEC 803, see also page 122)		
SR8W	Bushing and chuck type strain relief for waterproof solution IP54		
BSP-*	Coloured boot, available in 10 resistor colours		
	* color coding: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White		

Specification	powerCON Series	32 A powerCON Series	nanoCON Series	miniCON Series	neutriCON Series
Electrical					
Number of contacts:	2 + PE	2 + PE	3	12 (1-12 modular system)	8 (1-8 modular system)
Rated current per contact:	20 A rms	32 A rms	2 A	3 A	7.5 A (solder), 5 A (crimp)
Rated voltage:	250 V ac	250 V ac	50 V ac	50 V ac	50 V ac
Dielectric strength:	4000 V dc	4000 V dc	1000 V dc	1000 V dc	1500 Vdc
Contact resistance:	≤ 3 mΩ	≤ 3 mΩ	≤ 12 mΩ	≤ 8 mΩ	≤ 5 mΩ
Insulation resistance after	> 100 MΩ	> 100 MΩ	> 1 GΩ	> 500 MΩ	> 500 MΩ
damp heat test (IEC 68-2-30):					
Mechanical					
Retention method:	Quick lock	Quick lock	latch	Push-pull	Push-pull
Cable O.D. range:	5 - 15 mm	8 - 20 mm	3.4 mm max.	3 - 5 mm (grey chuck)	3 - 7 mm
				5 - 7 mm (white chuck)	3 - 3.8 mm (SR8A)
				2.5 - 6 mm	6 - 7 mm (SR8B)
				(crimp version MSRC)	
Wiring:	Cable: screw type	screw type terminals	0.2 mm² / 24 AWG	0.5 mm² / 20 AWG	1.0 mm² / 18 AWG
	terminals or soldering	2.5-6 mm² / 14-10 AWG	for solid wire	for solder	for solder
	2.5 mm² / 14 AWG				
	Chassis: flat tabs for FASTON®		0.14 mm²	0.22 mm²	0.14 - 0.34 mm²
			26 AWG	24 AWG	22 - 26 AWG
	4.8 x 0.5 mm or soldering		for stranded wire	for crimp	for crimp
Solderability complies with IEC 68-2-20:	●		●	●	●
Material					
Housing cable connector:	PA 6 30% GR	PA 6 30% GR	CuSn4Pb4Zn4	ZnAl4Cu1 / CuZn39Pb3	ZnAl4Cu1
					gal Ni or black chrome
Housing receptacle:	PA 6 30% GR	PA 6.6 25% GR	CuZn39Pb2	ZnAl4Cu1	ZnAl4Cu1,
					gal Ni or black chrome
Insert:	PA 6 30% GR	PA 6.6 25% GR	PETP	PA 6.6	PBTP 15% GR
Contacts:	CuZn39Pb3 / CuSn6	CuZn39Pb3 / CuSn0.2	CuZn35Pb2	CuZn35Pb2 (solder)	CuZn35Pb2 (solder)
				CuZn39Pb3 (crimp)	CuZn39Pb3 (crimp)
				CuSn6	
Contact surface:	4 µm / 20 µm Ag plated	4 µm Ag	0.5 µm Au	0.2 µm AuCo	0.3 µm Au hard
					alloy over 2 µm Ni
Chuck POM:	●	●	●	●	●
Environmental					
Flammability UL 94 HB:	●	● plug housing	UL 94 V-0	UL 94 V-0	●
Flammability UL 94 V-0:	-	● socket housing + plug insert	-	-	-
Temperature range: -30°C to +80°C	●	●	●	●	●
Protection class (mated):	IP 20	IP 2X unmated	IP 40	IP 5X	IP 5X
Safety Requirements EN/IC61984:	●	●	-	-	-

FASTON® is a trademark of AMP Inc.

Crimptool

Crimptool HX-CONTACT DMC crimptool AFM8 acc. M22520/2-01

+

MPOS-* Modified DMC positioner (K155) Contact positioner helds contact in position when crimping.

Contact and connector assembly

Crimptool HX-R-BNC Neutrik® HEX crimptool

+

DIE-R-BNC-* Neutrik® DIE's for various HEX sizes.

neutriCON - Ordering Information Assembly Tools

		Cable O.D. / Wire	Crimptool	Die/Positioner	HEX-Size/Standard
SR8A	Strain relief	3 - 3.8 mm	HX-R-BNC	DIE-R-BNC-PJ	5.41 mm / IEC 803
SR8B	Strain relief	6 - 7 mm	HX-R-BNC	DIE-R-BNC-PS	7.01 mm / IEC 803
BC1	Female crimp contact	AWG 22 -26	HX-CONTACT	MPOS-BC1	No. 5 / M22520/2-01
PC1	Male crimp contact	AWG 22 -26	HX-CONTACT	MPOS-PC1	No. 5 / M22520/2-01

miniCON - Ordering Information Assembly Tools

		Cable O.D. / Wire	Crimptool	Die/Positioner	HEX-Size/Standard
MSRC	Crimp ferrule only	4.5 - 6 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MSRC	Crimp ferrule & reduction ferrule 1	3.3 - 4.4 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MSRC	Crimp ferrule & reduction ferrule 2	2.5 - 3.2 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MBC	Female crimp contact	24 AWG/0.22 mm^2	HX-CONTACT	MPOS-MBC	No. 5 / M22520/2-01
MPC	Male crimp contact	24 AWG/0.22 mm^2	HX-CONTACT	MPOS-MPC	No. 5 / M22520/2-01

* DIE-R-BNC-PJ or PS also possible

Accessories

Content Page

Introduction

Various connector standards in the professional and semi-professional audio and video world lead to many interconnection challenges.

Neutrik has made it a rule to serve our customers' needs in all its connector offerings and has therefore produced a variety of problem solvers.

With our adapter series we have a solution for the most known interconnection difficulties and in addition we offer modules for the most common connector types to fulfill more specific needs.

Miniature impedance balancing adapters are the answer to the most common noise and grounding problems and for customized designs we recommend our proven audio transformers in combination with our modules.

Neutrik offers a wide range of audio adapters, transformers, AES/EBU adapters and gooseneck products. From problem solvers to connection quick fixes, Neutrik has the most popular audio connectivity solutions. All Neutrik adapters and connectors are soldered with lead free RoHS compliant solder.

XLR connector

RCA phono socket

Jack with locking latch

BNC socket

Circular Adapters

NA2FP

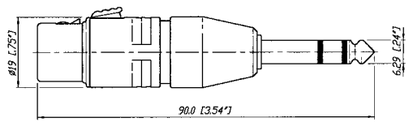
NA2MPMM

NA3MJ

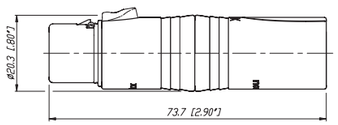
NA4FC-F

- Variety of adapters offered to interface with most connector combinations
- Professional look and compact space saving design
- Rugged diecast shell for best reliability
- Compact design and durability with Neutrik quality

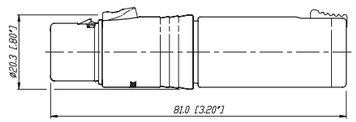
NA3FP



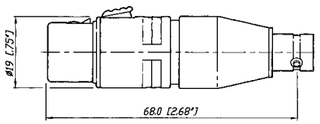
NA3FM



NA3FJ



NA2FBNC



Example drawing. Find more info on www.neutrik.com

Phono socket

speakON NL4MP

3 pole XLR male

Jack with locking latch

D Shape Adapters

NA2BBNC-D9B

NA2M-D2B-TX

NA4MP-J

NA4MP-MX

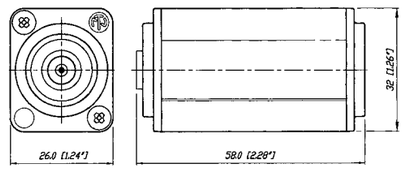
- Problem solvers for various intermating problems for professional and semi-professional applications
- Rugged aluminium extrusion housings for best reliability
- Colour coding on all RCA types

Miniature transformer balancing adapters NA2*-TX

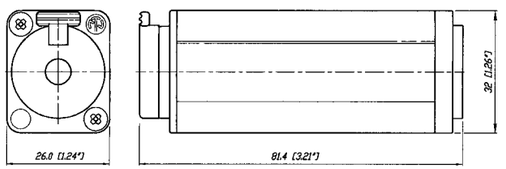
- Audio Transformer 1:1 impedance ratio 200 : 200
- Low cost solution for unbalanced / balanced line conversion and passive DI applications, where no earth or gain switching is required.
- Source / Load impedance 600 / 10K
  Max. input level @ 50Hz at 1% THD: -3dBu

NA2F-D0B-TX

NA2BBNC-D9B



NA4MP-J



Example drawing. Find more info on www.neutrik.com

Circular Adapters

Part No.	Port 1	Port 2	Comments
NA2FBNC	3 pole XLR female	BNC socket	1)
NA2FP	3 pole XLR female	TS 2),1/4" plug	1)
NA2FPMF	3 pole XLR female	RCA / phono socket	1)
NA2FPMM	3 pole XLR female	RCA / phono plug	1)
NA2MBNC	3 pole XLR male	BNC socket	1)
NA2MP	3 pole XLR male	TS 2),1/4" plug	1)
NA2MPMF	3 pole XLR male	RCA / phono socket	1)
NA2MPMM	3 pole XLR male	RCA / phono plug	1)
NA3FF	3 pole XLR female	3 pole XLR female	gender conversion adapter
NA3FF-B	3 pole XLR female	3 pole XLR female	gender conversion, black plating
NA3FJ	3 pole XLR female	TRS 2),1/4" jack	locking jack
NA3FM	3 pole XLR female	3 pole XLR male	extention adapter
NA3FMX	3 pole XLR female	3 pole XLR male	contacts 2 - 3 inverted
NA3FP	3 pole XLR female	TRS 2), 1/4" plug	
NA3JJ	stereo 1/4" jack	TRS 2), 1/4" jack	extension adapter, locking jack
NA3MJ	3 pole XLR male	TRS 2), 1/4" jack	locking jack
NA3MM	3 pole XLR male	3 pole XLR male	gender conversion adapter
NA3MM-B	3 pole XLR male	3 pole XLR male	gender conversion, black plating
NA3MP	3 pole XLR male	TRS 2),1/4" plug	
NA4FC-F	speakON NL4FC	3 pole XLR female	speaker adapter 3)
NA4FC-M	speakON NL4FC	3 pole XLR male	speaker adapter 3)
NA4LJX	speakON NL4FX	TS 2), 1/4" jack	speaker adapter 3)
NA4MP-F	speakON NL4MP	3 pole XLR female	speaker adapter 3)
NA4MP-J	speakON NL4MP	TS 2), 1/4" jack	speaker adapter 3)
NA4MP-M	speakON NL4MP	3 pole XLR male	speaker adapter 3)
NA4MP-M-X	speakON NL4MP	speakON NL4MP	speaker adapter 1+ / 1- inverted 3)
NA5FF-B	5 pole XLR female	5 pole XLR female	gender conversion adapter, black plating
NA5MM-B	5 pole XLR male	5 pole XLR male	gender conversion adapter, black plating

D Shape Adapters

NA2BBNC-D4B	BNC socket	RCA / phono socket	colour coded yellow
NA2BBNC-D9B	BNC socket	RCA / phono socket	colour coded white
NA2F-D0B-TX	3 pole XLR female	RCA / phono socket	colour coded black 4)
NA2F-D2B-TX	3 pole XLR female	RCA / phono socket	colour coded red 4)
NA2F-J-TX	3 pole XLR female	1/4" jack	ground lifted 4)
NA2M-D0B-TX	3 pole XLR male	RCA / phono socket	colour coded black 4)
NA2M-D2B-TX	3 pole XLR male	RCA / phono socket	colour coded red 4)
NA2M-J-TX	3 pole XLR male	1/4" jack	ground lifted 4)
NE8FF	etherCON	etherCON	RJ45 coupler
NL4MMX	4 pole speakON	4 pole speakON	lockable coupler
NL8MM	8 pole speakON	8 pole speakON	lockable coupler

1) ... Wired according to IEC 268-12: pin 2 = signal, pin 1 and 3: connected to ground
2) ... TRS-Tip, Ring, Sleeve contact (stereo); TS-Tip, Sleeve contact (mono)
3) ... Detailed wiring info on www.neutrik.com
4) ... Unbalanced / balanced line conversion, 1:1 transformer 200 Ω : 200 Ω

3 pole XLR female receptacle

3 pole cable connector

BNC chassis

AES / EBU Digital Impedance Transformer Adapters

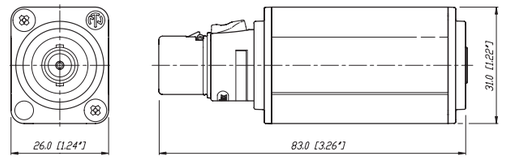
NADITBNC-F

NADITBNC-FX

NADITBNC-MX

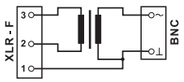
- Cost effective exceptional impedance matching adapters
- Allow long cable runs for digital audio signals via low attenuation coax lines
- Match balanced (110 Ω) to coaxial lines (75 Ω)
- Pre-wired in black anodized aluminum extrusions for increased durability
- AES/EBU adapters available with either 3 pin male or female XLR cable ends or receptacles
- Simple use, passive units

NADITBNC-FX

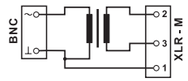


Technical Data

Maximum voltage / Max. power:	5 Vp-p / 250mW
Frequency band:	0.1 MHz to 6 MHz
Insertion loss:	< 0.3 dB @ 0.1 MHz to 10 MHz
VSWR / Return loss:	< 1.1 / > 26.4 dB



NADITBNC-F



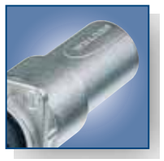
NADITBNC-M

Ordering Information

Part No.	Port 1	Port 2	Comments
	Input	Output	
NADITBNC-F	3 pole XLR female chassis	female BNC chassis	110 Ω XLR input and 75 Ω BNC output
NADITBNC-M	3 pole XLR male chassis	female BNC chassis	75 Ω BNC input and 110 Ω XLR output
NADITBNC-FX	3 pole XLR female cable con.	female BNC chassis	110 Ω XLR input and 75 Ω BNC output
NADITBNC-MX	3 pole XLR male cable con.	female BNC chassis	75 Ω BNC input and 110 Ω XLR output

5 pole male connector

5 pole female connector



All metal housing

3 pole plug

SM2/2 switch

VM housing

DMX Adapters

NA3F5M

NA3F5M

Feedthrough

NA3FDM

NA3MDF

Modules & Audio Transformers

NM3FXI

NM3P

KMX

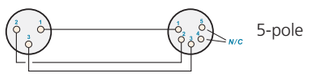
SM2/2

NM3FD-B

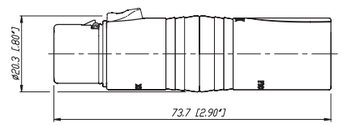
- Compact XLR 3 to 5 pole adapters for lighting (DMX) applications
- Solve interconnection problems of the old (3-pole) and new (5-pole) DMX standard
- Enable usage of standard 3-pole microphone cable for DMX applications
- Based on the worldwide accepted standard XLR connectors
- Reliable and rugged diecast shell

- 3-pole XLR feedthrough adapter
- D-flange chassis mount
- Male to female and vice versa
- Utilizes XX-components

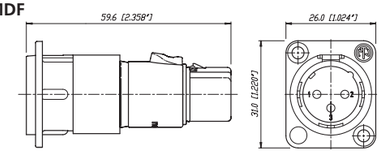
- Multifunctional modules allow to design customized adapters to suit specific needs
- Based on the X and D Series connector system
- NTE transformers and switch can be built in
- Professional look, rugged diecast shell

3-pole  5-pole

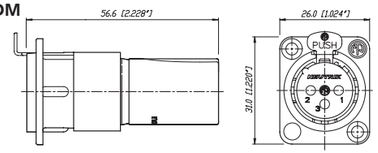
NA3F5M



NA3MDF



NA3FDM



Ordering Information DMX Adapter

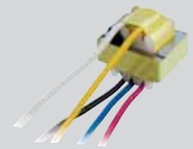
Part No.	Port 1	Port 2	Comments
NA3F5M	3 pole XLR female	5 pole XLR male	for DMX lighting applications
NA3M5F	3 pole XLR male	5 pole XLR female	for DMX lighting applications

Ordering Information Feedthrough

NA3FDM	3 pole XLR female	3 pole XLR male	
NA3MDF	3 pole XLR male	3 pole XLR female	

Audio Transformer

- Professional audio transformers for multiple applications, as e.g. microphone or line inputs
- Very low distortion, excellent frequency response
- Cost effective cable version for free wiring
- Fully permalloy-shielded studio versions



NTE10-3

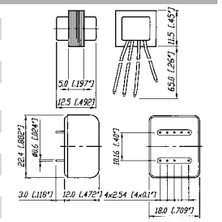
NTL1

Audio Transformer selection Guide

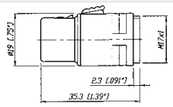
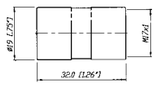
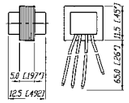
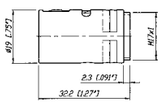
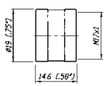
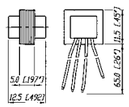
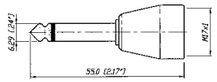
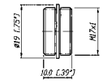
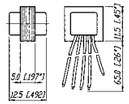
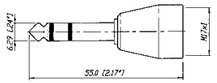
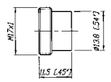
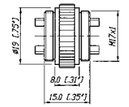
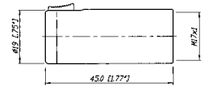
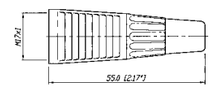
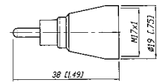
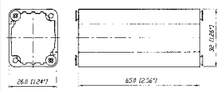
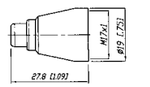
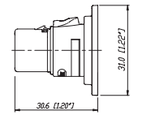
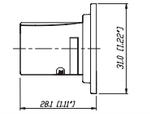
Part No.	Turns Ratio (prim : sec)	Impedance ratio	Source / load impedance in Ω	Max. Input level* @ 50 Hz, 1% THD [dBu]	Applications
NTE1	1 : 1	200 : 200	200 / 2k, (600 / 10k)	-3	General purpose, splitting, XLR inline
NTE4	1 : 4	200 : 3.2k	200 / 10 K	-7	Mic input step-up
NTE10/3	1 : 3	200 : 1.8k	200 / 10 K	-7	General purpose mic input step-up
	1 : 10	200 : 20k	200 / 50 K	-6	
NTL1	1 : 1	10k : 10k	600 / 10k	+19	Line input
NTM1	1 : 1	200 : 200	200 / 2k	+7	Mic input, splitting
NTM4	1 : 4	200 : 3.2k	200 / 10k	+9	Mic input step-up

* measured with typical source / load impedances

Wiring: NTE*... free wires, NTL / NTM*... PCB mount, shielded; Find detailed specifications on www.neutrik.com

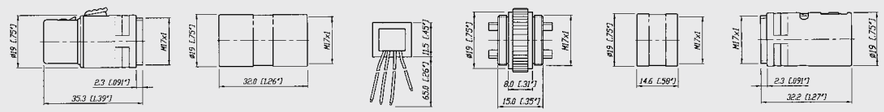


Module Selection Guide

Connector module		Coupler / housing		Transformer / switch	
NM3FXI XLR female M17x1 outside		KM M 17x1 inside		NTE1 1:1	
NM3MXI XLR male M17x1 outside		KMX M 17x1 inside		NTE4 1:4	
NM2P mono 1/4" plug M17x1 inside		VM M 17x1 outside		NTE10/3 1:3:10	
NM3P stereo 1/4" plug M17x1 inside		VMX M 17x1 outside		SM2/2 2x2 switch M17x1 outside	
NM3J stereo 1/4" jack M17x1 inside		CM cable outlet M 17x1 inside			
NMPMM RCA male M17x1 inside		NA-Housing[1] black plated screws included			
NMPMF RCA female M17x1 inside					
NM3FD-B black plated D-Shape					
NM3MD-B black plated D-Shape					

[1] ... Combinations possible with all D Shape connectors like e.g. NC3FD-L-1, NF2D, NBB75DSI, etc.

Example:



NM3FXI KM NTE1 SM2/2 KMX NM3MXI

3 pole XLR with securing ring

Flexible spiral

Integrated cable outlet

Goosenecks

GNS18

GN36

GNS50

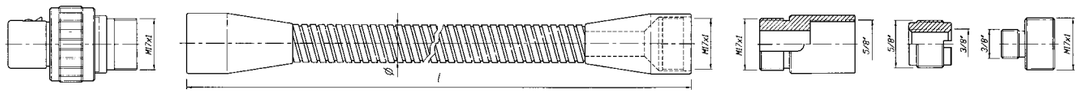
- For flexible and secure mounting of microphones, lamps etc.
- Versatile, modular system allows various combinations
- Durable stainless steel spiral, no rust, no noise, non-reflective black finish
- Theft proof microphone connection on GNS version (securing ring and fixing screw)
- Strong, flexible and noiseless goosenecks available in three lengths

Ordering Information

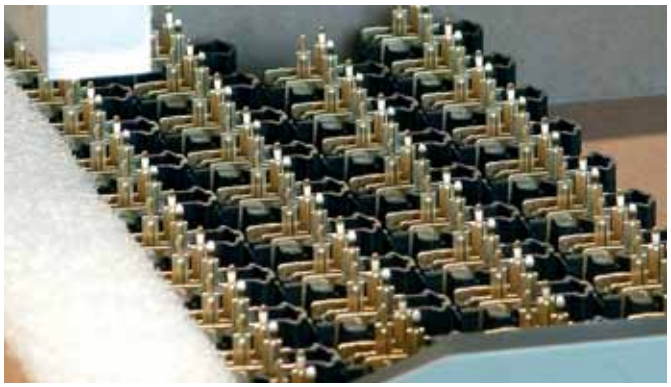
Part No.	Description
GN18	M17x1 inside thread at both ends (∅ 12 mm, 230 mm length)
GN36	M17x1 inside thread at both ends (∅ 13 mm, 360 mm length)
GN50	M17x1 inside thread at both ends (∅ 15 mm, 500 mm length)
Gosseneck sets:	
GNS18	Gooseneck set GN18, NC3FX-Spec., cable outlet, NAM5 adapter, M17x1 bolt thread
GNS36	Gooseneck set GN16, NC3FX-Spec., cable outlet, NAM5 adapter, M17x1 bolt thread
GNS50	Gooseneck set GN50, NC3FX-Spec., cable outlet, NAM5 adapter, M17x1 bolt thread
Accessories:	
NAM4	M17x1 outside thread, 5/8" 27 UNS inside thread [1]
NAM5	3/8" inside thread, 5/8" 27 UNS outside thread [1]
GF1	Panel-mounting kit: Flange ∅ 63.5 mm including mounting bolt M17x1, 30 mm length [1]
MSG	Mounting bolt M17x1, 30 mm lenght [1]

[1] ... Find detailed specifications on www.neutrik.com

GNS Set consisting of:



NC3FX-Spec GN Cable outlet NAM5 M17x1 bolt



Production

The professional entertainment industry depends on reliable components - night in, night out. Neutrik® - the world's leading manufacturer of professional connector systems - sets the standards in technical reliability, warranty and durability. Availability of products as well as technical support and excellent service are to be understood as priority objectives. Besides cutting-edge precision, functionality and design make the difference and build the basis for our complex demand for high quality standards.

To realize our innovative product ideas and to meet the requirements of our customers we make use of all possibilities which modern R&D and production technologies can offer. Neutrik has developed and proven its own automated manufacturing methods. The professional mechanics of the automation department work with state-of-the-art technologies like video control systems and robotics.

Together with the systematic quality control the high precision robotic production processes ensures continuous quality and efficient delivery of goods to the right place at the right time.

Patch Panels

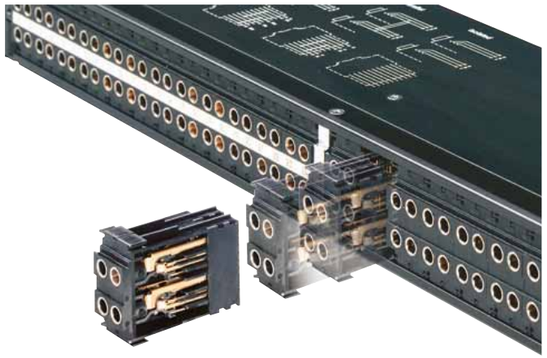
Content

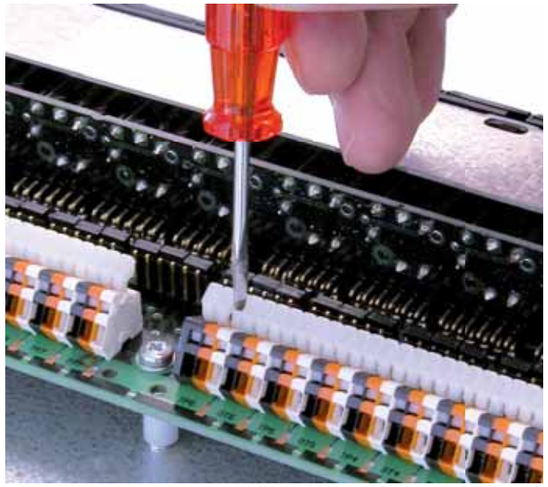
Introduction

Patch Panels are central switching gears between audio equipments. They are used to switch and route analog and digital audio signals from and to equipments in recording or broadcast studios, OB vans, churches, theatres, stadiums, arenas, etc.
Neutrik® Patch Panels are available in a varety of jack types, wiring and grounding possibilities.
Common versions accommodating Bantam TT, 1/4“ A-gauge and longframe B-gauge jacks on the front rows are available.

The mechanical size is designed to fit into 1U 19“ standard racks. All Neutrik Patch Panels offer various normalling possibilities between top and bottom row.

All Neutrik® Patch Panels are able to handle digital audio signals acc. AES3, 48kHz sampling rate.



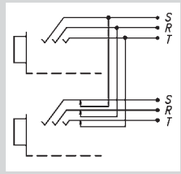


Audio Normalling

Audio Normalling is usually used with audio patch panels and is a wiring pattern in which a circuit path is established from one piece of audio equipment to another without the use of a patch cord. This pattern is then considered to be the „normal“ circuit path that is desired most of the time. If a patch cord is inserted, the normal circuit path is interrupted and rerouted to a different circuit path.
Normalled patch panels are most commonly found in vertical jack pairs: the top jack is designated as the source and the bottom jack is the destination.

Normalling example: HALF NORMALLED BOTTOM ROW

This is the most common configuration, very often called HALF NORMALLED. In this configuration internal normalling contacts connect the top jack contact with the corresponding bottom jack contact. Inserting a plug in the bottom jack will interrupt this internal normalling connection, while inserting a patch cord into the top jack doesn‘t interrupt the circuit. (Can be used to monitor the normalling circuit)



Other versions of normalling are Half Normalled Top Row, Full Normalled, Parallel and Isolated.


Robust front design


Easy assembly


Jack-pair


IDC terminals


Push terminals

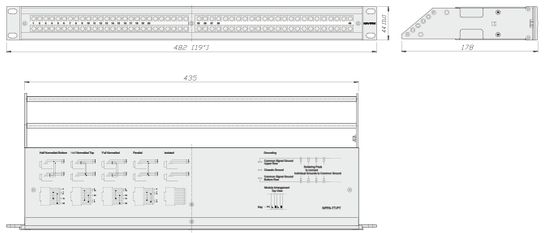

ELCO connectors

NPPA-Series – 96 Bantam (TT) Jacks


NPPA-TT-PT

- Innovative and compact patching system (just 1U high) for 19“ rack mounting
- Robustly housed in a black coated steel shell
- Features 2 x 48 long life gold plated TT size (bantam) Neutrik NJ3TTA double contact point TRS jacks
- Available in all common normalling configurations (default Half Normalled Bottom)
- Qualified for analog and digital signals according to AES3, 48 kHz sampling frequency
- Remove the front panel for quick changes of the NJ3TTA-** modules for reconfiguration or repair even when "on air"
- Includes two built in cable bars and two wide channel ID strips
- PatchLink Software for printing onto labeling strips is on Neutrik website (available for PC only)

Dimensional Drawing



Design Criteria

All panels are fitted with high quality, long life Neutrik® NJ3TTA gold plated double contact jacks (2 x 48), featuring drastically improved contact integrity and are available with a wide choice of wiring terminations. The unit is finished off with a built in cable bar and two large channel ident strips for perfect management of the system.

The new generation of the Neutrik® "Easy-Patch" is easily programmable for any one of five configurations (standard is half normalled bottom row) and for the grounding system of your choice. Each individual pair of jacks can be changed or reconfigured quickly and without fuss even while the panel is "on air". The NJ3TTA jacks offer also two contact points per terminal (TRS) with a special designed mechanism for the normalling contact. Simply remove the front panel to reveal the easy access jack. Remove, replace or reconfigure the jack and refix the panel.

The "Easy-Patch" is an innovative and compact patching system (just 1U high) for 19" rack mounting. Robustly housed in a black coated steel shell and featuring precision aluminium fittings it is built to last.

Configuration

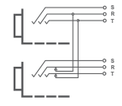
The standard version of the NPPA Panel is delivered bottom row half normalled for each jack pair by default. Further patch versions are available with fully loaded jack-pairs as:

- Full Normalled
- Half Normalled
- Isolated
- Parallel

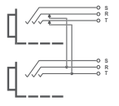
For individual normalling single pre-configured jack-pairs are offered.
NPPA-TT-IDC is equipped with jumper blocks for individual switching configurations of each jack channel.

Note: Take care when handling digital signals. Do not use parallel configuration and avoid other parallel paths when using half normalled configurations. Parallel paths may lead to mismatching.

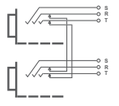
Half Normalled Bottom



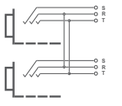
Half Normalled Top



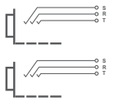
Full Normalled



Parallel



Isolated



Grounding

The flexible grounding system provides the following versions:

- Individual: Each channel is individually grounded by its corresponding cable shield (default configuration).
- Group: Selected channel grounds are connected via the ground bus on the PCB using solder bridges and track cuts to form a group that is connected to one common cable shield.
- Central: All channel grounds (individual top and bottom row) are connected via the ground bus on the PCB using solder bridges and wired with only one cable shield.
- Chassis-Common: The same as central grounding but with the addition of the common ground bus (top and / or bottom rows) connected to the patch panel chassis by means of jumpers

Wiring Terminations

TT Patch Panels offer different choices of wiring:

- Spring loaded push terminals
- 56 pin Elco/Edac male connectors
- 90 pin Elco/Edac connectors
- 50 pin D-SUB connectors
- 25 pin D-SUB connectors
- IDC-Krone terminals
- Solder lugs

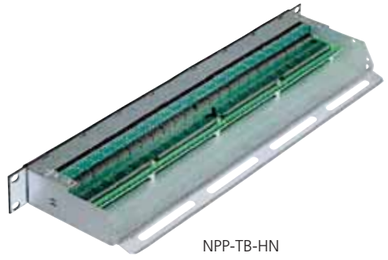
The spring loaded terminal blocks enable fast and easy wiring. No soldering and screwing necessary. Simply insert the stripped wire after pressing down the white key. Terminals accommodate stranded wires up to AWG 20 (0.5 mm²) and solid wires up to AWG 18 (0.75 mm²). Push terminals are gas tight connections.

For Pin assignment of ELCO / EDAC and D-SUB connectors please see drawings on www.neutrik.com

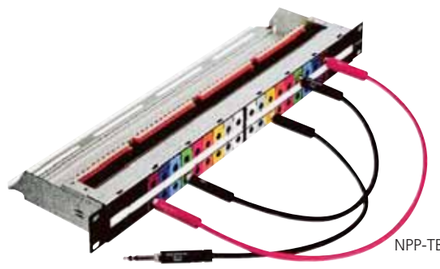
Individual colour coding

Galvanized metal housing

NPP-TB-Series – 48 B-Gauge Jacks



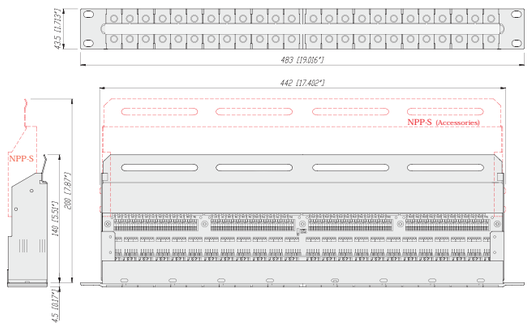
NPP-TB-HN



NPP-TB + NPP-LB*

- Features 2 x24 Neutrik® NJ6TB-V long frame 1/4" TRS jacks according to BPO316/MIL-P-642/2
- Very robust and compact galvanized metal housing
- Compact, cost effective system qualified for both analog and digital signals acc. AES3, 48 kHz sampling frequency
- High quality long life gold plated Neutrik jacks
- Easily programmable for any of 6 configurations with 4 grounding choices
- Rear terminations include solderless terminal blocks or solder lugs (solder for non-programmable half-normalled versions only).
- Center marking strip is removable; See Neutrik website to download PatchLink labeling software for PCs
- Color coded tabs, dust cover and rear extension strain relief bars are optional accessories

Dimensional Drawing



"Easy Patch" Patch Panel

Design Criteria

The TB Patch Panel is a very robust and compactly designed Patch Panel for 19" rack mount (19" x 1U) with galvanized metal housing, a built-in cable bar on the rear for securing wires. There is a rear extension bar (NPP-S) available as an option for some panel types. On the front side we have an attractive additional lettering facility for each channel pair with a marking strip and individual snap-on colour coding plates.

The NPP is easily programmable for six switching configurations and for changing the flexible grounding system. All panels have the high quality long life gold plated Neutrik® NJ6TB-V Jack for the BPO / MIL style plugs. We have two variants of rear connection. The standard is equipped with spring loaded terminals strips and an optional version offers solder lugs.

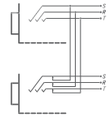
Configuration

Due to the jumper blocks capability provided, the switching configurations available per jack channel are:

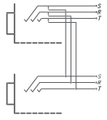
- Half Normalled Bottom Row
- Full Normalled
- Parallel
- Isolated

The TB Panel is delivered in a full normalled configuration for each jack channel. A non-configurable half normalled ("-HN") bottom row version with solder lugs is also available.
NOTE: Take care when handling digital signals. Do not use Parallel configuration and avoid other parallel paths with Half / Double Normalled configurations. Parallel paths may lead to mismatching.

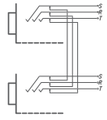
Half Normalled Bottom



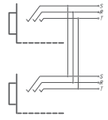
Half Normalled Top



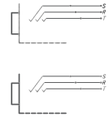
Full Normalled



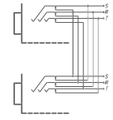
Parallel



Isolated



Double Normalled



Grounding

The flexible grounding system allows four possibilities to fit your needs:

- Individual: Each channel ground is separately connected with the corresponding cable shield (default configuration).
- Group: Some channel grounds are PCB connected by making soldering joints on the PCB and by cutting tracks respectively to form a group that is connected to one common cable shield.
- Central: All channel grounds are PCB connected by making soldering joints and wired with only one cable shield.
- Chassis-Common: Same as central grounding with additional connection of the common ground to the Patch Panel chassis by means of a jumper.

Wiring Terminations

TB Patch Panels are available with:

- Spring loaded push terminals (NPP-TB)
- Solder lugs (NPP-TB-HN)

The spring loaded terminal blocks are fast and easy to connect and disconnect the wires.
No soldering and screwing necessary. Simply insert the stripped wire after pressing down the white key.
Accommodates stranded wires up to AWG 20 (0.5 mm^2) and solid wires up to AWG 18 (0.75 mm^2).

Ruggedized metal housing

Imprinted grounding instruction

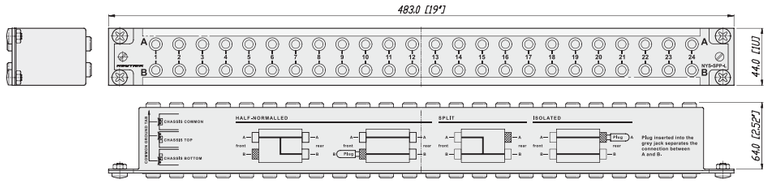
Module NYS-SPCR1

1/4" Patch Panel

NYS-SPP-L1

- Individual grounding available for each channel separately
- Ruggedized metal housing
- Improved contact design minimises wear on mated plugs
- Economic and versatile designed 1/4" modular Patch Panel with 2 rows of jack sockets
- 48 balanced channels with fully PCB wired jack (24 vertical PC boards), 24 front pairs and corresponding 24 rear pairs
- Jack PC card contains 4 balanced 1/4" jacks with non-tarnishing contacts, is held securely in place without the use of nuts - no little pieces to drop, break or lose
- Easy to change configuration by just flipping individual PC board
- Normalling jack is coloured grey for easy identification
- 4 designation strips included for front and rear panel

Dimensional Drawing



Design Criteria

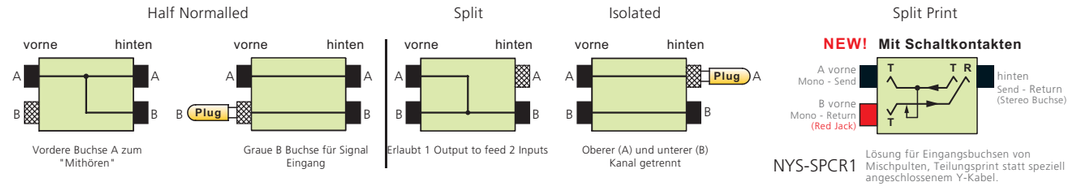
The NYS-SPP-L1 is a economical and remarkable sleek designed 1/4" modular Patch Panel for 19" rack mount (19" x 1U) with a reinforced metal housing. Each of it's 48 PCB wired balanced channels (24 front pairs and corresponding 24 rear pairs) can either be grounded separately or in groups of inividually chooseable channel numbers (detailed information see below).

The PCBs are held securely in place by being clamped between the front and the rear panel, this grants an easy reconfiguration of the Patch Panel without the danger of loosing any small parts (e.g. nuts). The grey jack serves as an easy and distinguishable normalling identification.

Configuration

Standard configuration, when delivered, is Half Normalled bottom row. The configuration can easily be changed by just flipping the individual PCB. Inserting a plug into the grey jack will always isolate the top against the bottom row. Alternative solution for send/return applications by use of NYS-SPCR1 module (see accessories below).

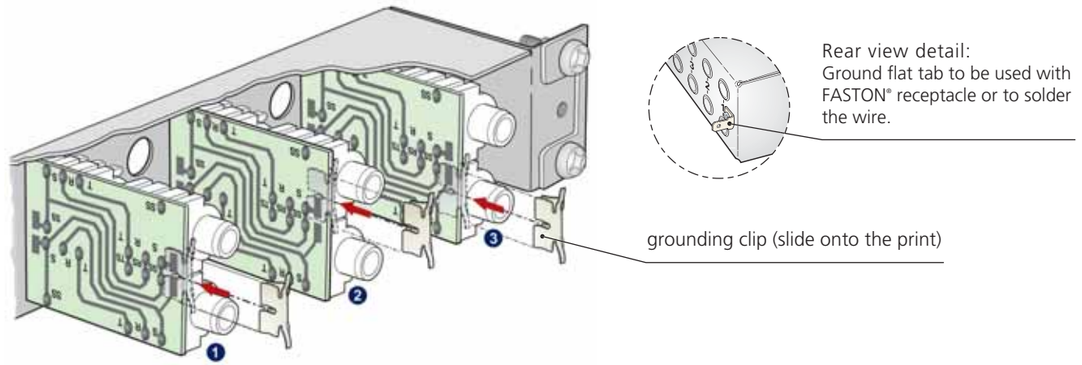
The following configurations are available:



Grounding

The flexible grounding system, applicable for each channel separately by simply attaching the loose supplied grounding clips to the grounding pad of the corresponding channel, offers the following alternatives:

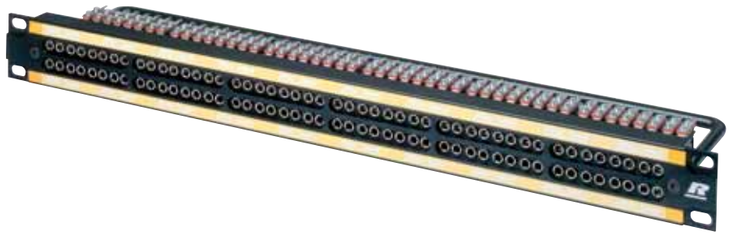
- Individual (without grounding clip): Each channel ground (sleeve contact) is connected to the dedicated ground contact of the incoming 1/4" plug only. This is the standard configuration for delivery.
- Chassis common ①: The relevant channel grounds (sleeve contacts; top and bottom row) is connected to the ground flat tab via grounding clip and chassis.
- Chassis top ②: The dedicated top channel ground (sleeve contact) is connected to the ground flat tab via grounding clip and chassis.
- Chassis bottom ③: The dedicated bottom channel ground (sleeve contact) is connected to the ground flat tab via grounding clip and chassis.



Standard 4.4mm bantam jack

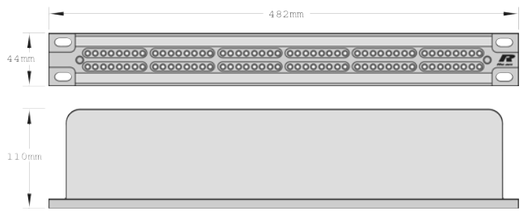
Long frame jack socket

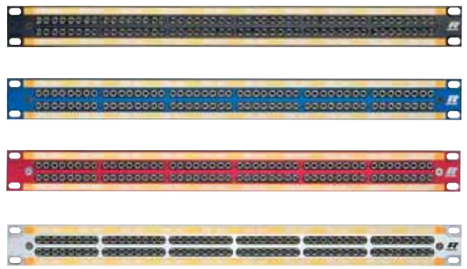
MA 96 and XPM 96 Bantam Patchbays

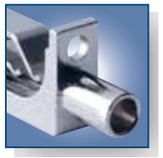


- Robust designed patchbay to accept standard 4.4 mm Bantam jack connectors (acc. MIL-D-642/13)
- Fitted with 96 Rean die-cast jack sockets
- Constructed from rigid aluminium extrusion which includes 2 integral slots for designation strips
- 96 channels grouped in two row 12 x 8 stereo jacks
- XPM96 features traditional 2 row, 4 x 24 stereo jacks
- Available in 4 colours: black, silver, red or blue
- Suitable for audio, broadcast, data and industrial applications XPM96

Dimensional Drawing







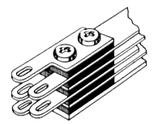
Die-cast frame

Tinned tags

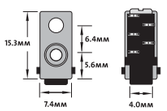
MAJ 501 Bantam Jack Socket

- 5-point Bantam jack socket (Tip, Ring, Sleeve, Tip Normal, Ring Normal)
- Rigid nickel plated die-cast frame, featuring considerable frame strength eliminating physical distortion when plug is inserted
- Nickel-silver spring contacts, palladium plated switch contacts
- Tinned tags for easy soldering

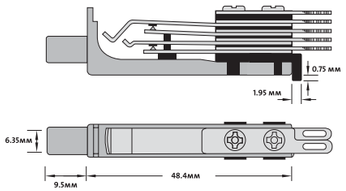
Termination



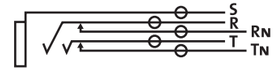
End Elevations



Plan Elevations



Circuit Detail



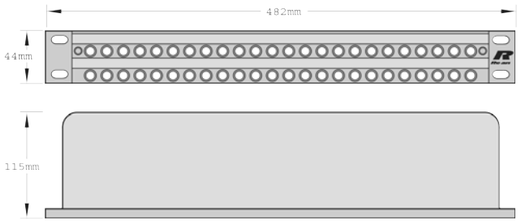
B-Gauge patchbay

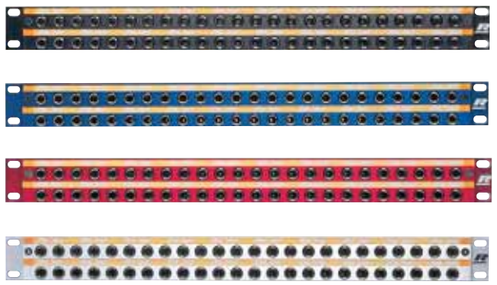
48 way longframe

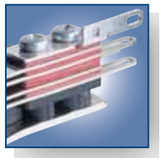
LF 48 B-Gauge Patchbays

- 48 way Longframe B-Gauge patchbay
- Accepts both European BPO 316 and US MIL-P-642/2 style phono plugs
- 2 rows of 24 LF501 jack connectors
- Jack designed from rigid nickel-plated die-cast aluminium with nickel-silver spring contacts
- Available in 4 colours: black, silver, red or blue
- Reliable support for connecting looms by steel lacing bar

Dimensional Drawing





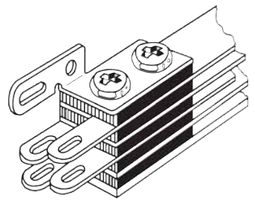


Solder lugs

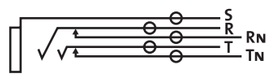
LFJ 501 B-Gauge Jack Socket

- 5-point B-Gauge jack socket
- Nickel-silver spring contacts
- Palladium plated switch contacts
- Durable die-cast body with bright nickel plated nose
- Termination solder lugs

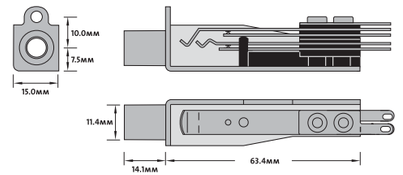
LFJ 501



Circuit Detail



Plan Elevations



Specifications		NPPA Series	NPP-TB Series	NYS Series	MA 96 and XPM 96	LF 48 Series
Electrical						
Contact resistance:		< 20 mΩ	< 10 mΩ	< 10 mΩ	< 24 mΩ	< 20 mΩ
Switch contact resistance:		< 25 mΩ	< 15 mΩ	< 10 mΩ	< 26 mΩ	< 15 mΩ
Insulation resistance:	> 1 GΩ @ 500 V dc	●	●	●	●	●
Dielectric strength:	> 500 V ac	●	●	●	●	●
	> 1`000 V dc	●	●	●	-	-
Frequency range:	DC to > 50 MHz	●	●	●	●	●
Channel separation:	> 100 dB @ 10 kHz, 600 Ω terminated	●	●	●	●	●
	> 40 dB @ 6 MHz, 110 Ω terminated	●	●	●	●	●
AES / EBU Signals (digital) suitable:		●	●	●	●	●
Handles Phantom Power:		●	●	●	●	●
Mechanical						
Life time:	> 20`000 cycles	-	-	-	●	●
	> 10`000 cycles	-	-	●	-	-
	> 5`000 cycles	●	●	-	-	-
Insertion force:	< 25 N	-	-	-	●	●
	< 20 N	-	-	●	-	-
	< 10 N	●	●	-	-	-
Withdrawal force:	> 10 N	●	●	●	●	●
	> 8 N	●	●	-	-	-
Dimensions:	482 x 44 mm (19" x 1U)	●	●	●	●	●
Depth:		178 mm (7")	140 mm (5.5")	64 mm (2.52")	110 mm (4.33")	115 mm (4.53")
Dimension Patch Box:	168 x 77 x 77 mm (6.0 x 3 x 3")					
Temperature range:	- 30°C to + 80°C	●	●	●	●	●
Mating plug:		4.4 mm (0.173") Bantam plug	B-Gauge 1/4" plug	A-Gauge 1/4" plug acc. EIA RS-453	4.4 mm (0.173") Bantam plug	Longframe B-Gauge plug
	according	MIL-P-642/13	BP0316/MIL-P-642/2	TEC60603-11	MIL-P-642/13	BP0316/MIL-P-642/2
Grounding wiring	flat tab for 3/16" FASTON® (4.8 x 0.8 mm)	-	-	●	-	-
Material						
Housing:		Steel	Steel	Steel	anodised Al	anodised Al
Front panel:		anodised Al	Pocan B 3225	Steel	anodised Al	anodised Al
Lacing bar:		Brass	Steel	N / A	coated steel	coated steel
Jack housing:		PA 66 blend	PA 6.6 30% GR	ABS	diecast alloy	diecast Al
Jack contacts:		CuSn6	CuSn6	CuSn6	Ni-Silver	Ni-Silver
		Tribor® plated	Au plated	tin plated	(CuNi18Zn20)	(CuNi18Zn20)
Switch contacts:		Au plated	Au plated	Bronze, tin plated	Palladium plated	Palladium plated
Grounding clip:		-	-	CuSn6, SnCu plated	-	-

Operating Accessories

Labeling software:

Patchlabel is a program to Label Patch Panel designation strips.
Free Download of Patch Label Program (ZIP - 347 KB) on the Web "www.neutrik.com" section "Patch Panels".

Part Number	Description			
NPPA Series		Configuration*	Wiring	Grounding
NPPA-TT-PT**	2 x 48 jacks	half normalled bottom	288 push terminals	individual
NPPA-TT-PT-FN**	2 x 48 jacks	full normalled	288 push terminals	individual
NPPA-TT-PT-HNT**	2 x 48 jacks	half normalled top row	288 push terminals	individual
NPPA-TT-PT-I**	2 x 48 jacks	isolated	288 push terminals	individual
NPPA-TT-PT-P**	2 x 48 jacks	parallel	288 push terminals	individual
NPPA-TT-S**	2 x 48 jacks	half normalled bottom	288 solder terminals	individual
NPPA-TT-S-FN**	2 x 48 jacks	full normalled	288 solder terminals	individual
NPPA-TT-S-HNT**	2 x 48 jacks	half normalled top row	288 solder terminals	individual
NPPA-TT-S-I**	2 x 48 jacks	isolated	288 solder terminals	individual
NPPA-TT-S-P**	2 x 48 jacks	parallel	288 solder terminals	individual
NPPA-TT-PT-PH	2 x 48 jacks	half normalled bottom	288 Phoenix push terminals	individual
NPPA-TT-SD50	2 x 48 jacks	half normalled bottom	4 x 50 pole D-SUB	groups of 12 channels
NPPA-TT-SD25	2 x 48 jacks	half normalled bottom	12 x 25 pole D-SUB	groups of 12 channels
NPPA-TT-E56	2 x 48 jacks	half normalled bottom	6 x 56 pole ELCO male connectors	individual
NPPA-TT48-E56	2 x 24 jacks	half normalled bottom	3 x 56 pole ELCO male connectors	individual
NPPA-TT-E90	2 x 48 jacks	half normalled bottom	4 x 90 pole ELCO male connectors	individual
NPPA-TT-IDC	2 x 48 jacks	programmable by jumpers	288 IDC terminals (KRONE-Type)	individual

* fully loaded jack pairs only, to built patch panels with mixed configuration use pre-config jackpairs
** in case of need added normalling bars can be used to reconfigure up to 4 jackpairs

Pre-configured Jack-Pairs			
NJ3TTA-4-HNB	blocks of 2 channels	half normalled bottom row	cover ident color: clear
NJ3TTA-4-HNT	blocks of 2 channels	half normalled top row	cover ident color: yellow
NJ3TTA-4-FN	blocks of 2 channels	full normalled	cover ident color: green
NJ3TTA-4-P	blocks of 2 channels	parallel	cover ident color: red
NJ3TTA-4-I	blocks of 2 channels	isolated	cover ident color: orange

Accessories	
NPPA-S	Strain Relief bar
NKTT*	Patch cords with NP3TT-1 plugs. Available in black, blue, green, red and yellow. Lenght: 30, 40, 60, 90, 120 cm

NPP-TB Series		Configuration	Wiring
NPP-TB	2 x 24 TB (BP0316/MIL-P-642/2) jacks	programmable for all commonly used configurations	push terminals
NPP-TB-HN	2 x 24 TB (BP0316/MIL-P-642/2) jacks	half Normalled Bottom Row	solder tags

Accessories	
NPP-LB-**	Channel identification and status plates, pack of 100 per color, 9 different colors
NPP-C	Metal dust cover
NPP-S	A second rear extention bar for fix the very large cables.
NKTB*	Patch cord with NP3TB plugs. Available in black and red. Length: 30, 40, 60, 90 cm

**: 0 - Black, 1- Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White; Must be ordered in multiples of 100.

NYS SPPL	
NYS-SPP-L1	1/4" Patch Panel, 2 x 24 channels, configuration half normalled, isolated, split
NYS-SPCR1	Send / Return module (Split Print)

Part Number	Description
MA96 and XPM-96	
MA96-1A	96 way, Red front panel - grouped 12 x 8
MA96-1D	96 way, Blue front panel - grouped 12 x 8
MA96-1O	96 way, Black front panel - grouped 12 x 8
MA96-1S	96 way, Silver front panel - grouped 12 x 8
XPM-96SS	96 way, Silver front panel - grouped 4 x 24
XPM-96SO	96 way, Black front panel - grouped 4 x 24
Bantam Jack Socket	
MAJ-501	Standard Solder Tag
LF48 Longframe B-Gauge Patchbays	
LF48-1A	48 way, Red front panel
LF48-1D	48 way, Blue front panel
LF48-1O	48 way, Black front panel
LF48-1S	48 way, Silver front panel
LFJ-501	Longframe B-Gauge jack socket, standard solder tag

Definitions, Abbreviations & Useful Information

ELEMENTS

Ag	Silver
Al	Aluminium
Au	Gold
Co	Cobalt
Cr	Chromium
Cu	Copper
Ni	Nickel
P	Phosphorus
Pb	Lead
Pd	Palladium
Sn	Tin
Zn	Zinc

ALLOYS, PLASTICS, POLYMERS

Brass (Alloy)	CuZn39Pb3
Bronze (Alloy)	CuSn6
Ck 67	Carbon Steel
EPDM	Ethylene Propylene
GR	Glass Reinforced
PA	Polyamid(e)
PBTP	Polybutylene Terephthalate
POM	Polyacetal
PTFE	PolyTetraFluoroEthylene (TEFLON)
PUR	Polyurethane

MEASUREMENT LEGEND

N	Newton
Ω	Ohm
µ	Micro
OD	Outside Diameter
m	Meter(s)
k	Kilo

ENGLISH TO METRIC CONVERSIONS

1/8 inch	3.175	millimeters (mm)
1/4 inch	6.35	millimeters (mm)
1 inch	25.4	millimeters (mm)
	2.54	centimeters (cm)
1 foot	30.48	centimeters (cm)
	0.3048	meter (m)
6 feet	1.828	meters (m)
50 feet	15.24	meters (m)
100 feet	30.48	meters (m)
1000 feet	304.8	meters (m)

METRIC TO ENGLISH CONVERSIONS

1 centimeter	0.3937	inches
1 meter	39.37	inches
	3.281	feet
10 meters	32.808	feet
50 meters	164.041	feet
100 meters	328.084	feet

OTHER ABBREVIATIONS

UL®	Underwriters Laboratories
IP Rating	Ingress Protection rating for objects and water ACC IEC529/EN60529
IEC	International Electrotechnical Commission is the international standards and conformity assessment body for all fields of electrotechnology
	UL Recognized Component Mark
AWG	American Wire Gauge

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