



## **Product Guide** | 2013 / 14

proudly engineered

Profi

neutrikON

nanoCON

miniCON

speakON

powerCON

etherCON

silentPLUG

crystalCON

convertCON

timbrePLUG




opticalCON

opticamSWITCH

**NEUTRIK**®



# The Neutrik® Line

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## About Liechtenstein

The Principality of Liechtenstein is located in the middle of Europe, situated between Switzerland and Austria, snow-covered mountains and sunny valleys.

With a total area of only 160 km<sup>2</sup> Liechtenstein is the fourth smallest country in Europe.

Liechtenstein's economy has a significant emphasis on industrial production. The production sector provides about 40% of the jobs, which in comparison with other European countries is extraordinarily high. The jobs of the industrial sector are provided by 582 enterprises. They are active in a large number of specialised market niches and contribute to the broad diversification of Liechtenstein's economy. Due to Liechtenstein's limited domestic market, especially the larger enterprises are heavily export-oriented. A vast majority of their goods production is sold abroad. The most important export countries of Liechtenstein's industry are Switzerland, Germany and the USA.

### Liechtenstein in brief:

Area: 160.5 km<sup>2</sup> | Capital: Vaduz | Inhabitants: 36,848

Currency: Swiss franc | Neighboring countries: Switzerland, Austria

Official language: German | Time zone: CET | System of State: constitutional hereditary monarchy on a democratic and parliamentary basis



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## About Neutrik®

**Neutrik is an international corporation with more than 35 years 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.

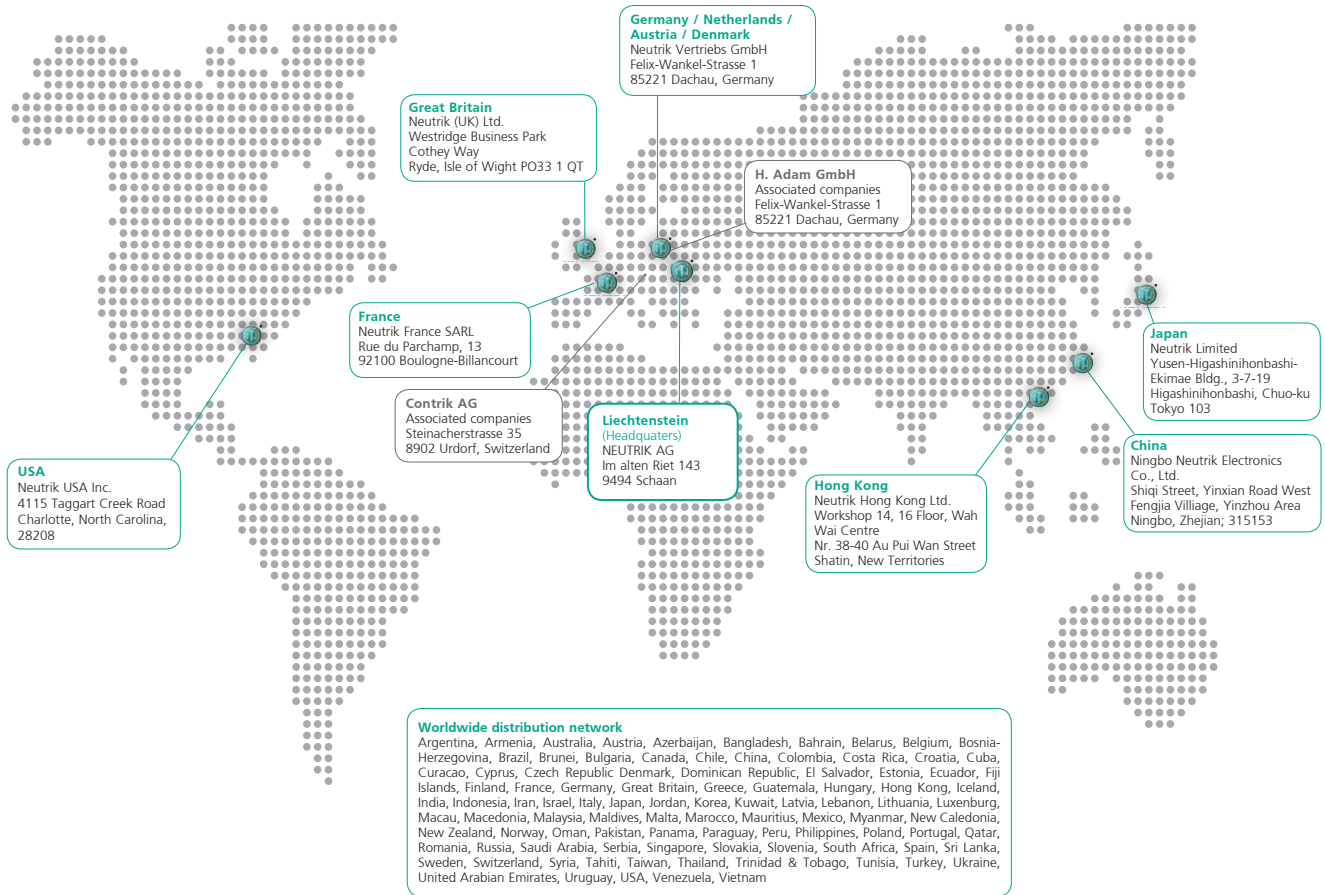
From the beginning Neutrik has concentrated on the development of innovative audio connector products. Today Neutrik leads the way in the professional audio market.

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 strong market position results from the ability to be aware of market needs at an early stage and to meet these requirements quickly by innovative and customized designs and stage-of-the-art production technologies. Neutrik is committed to excellence in innovation, quality based on ISO 9001-2008 and fair partnership with customers.



The Neutrik story started in a barn. The first shipments were made ready for dispatch in this building which was the home of Neutrik unit 1984 (left). In 2004 the Neutrik team moved into the new multifunctional premises "Im alten Riet 143" in Schaan (right).



## Neutrik® Group

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

## Customer Service

It is the Neutrik philosophy to be customer-oriented and to stay in close contact with our customers all over the world, using an international network of subsidiaries, associated companies and distributors.



## Innovation

Neutrik's 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 made us successful. Our products have set the standards for more than 35 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 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 ensure superior quality.

Every product Neutrik sends out 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 consistent 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 protection of environmental resources and to the development and production in an environmentally acceptable manner with respect to health and safety.

We comply with all relevant government laws and directions which relate to environmental protection. We support with all means the protection 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 have 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)





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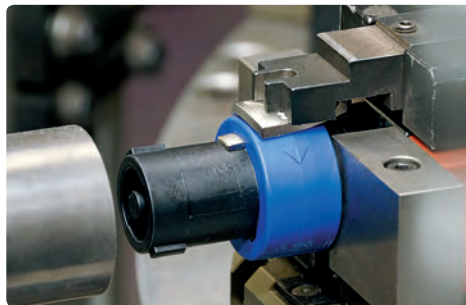
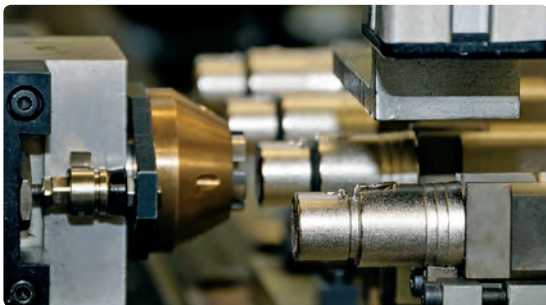
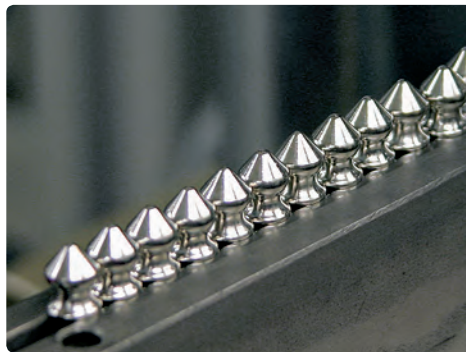
## Production

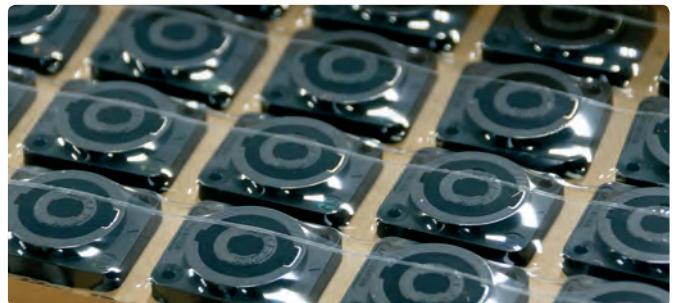
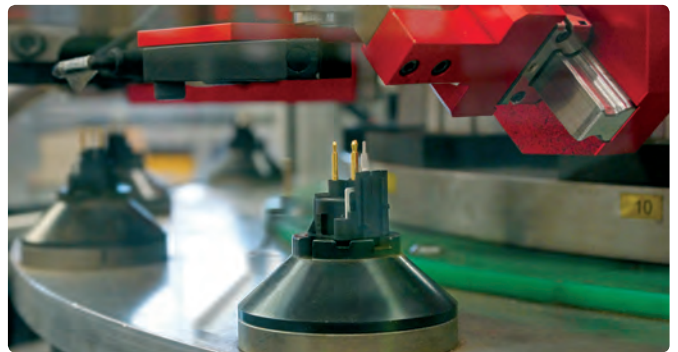
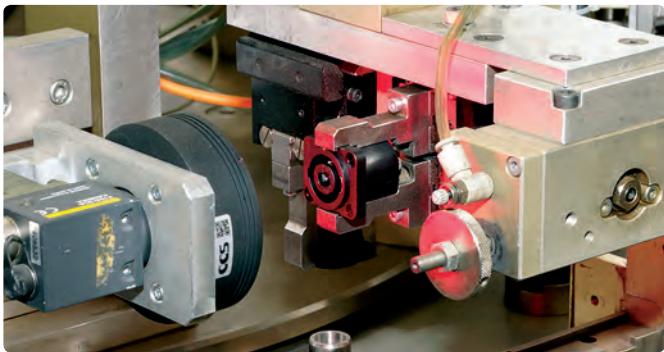
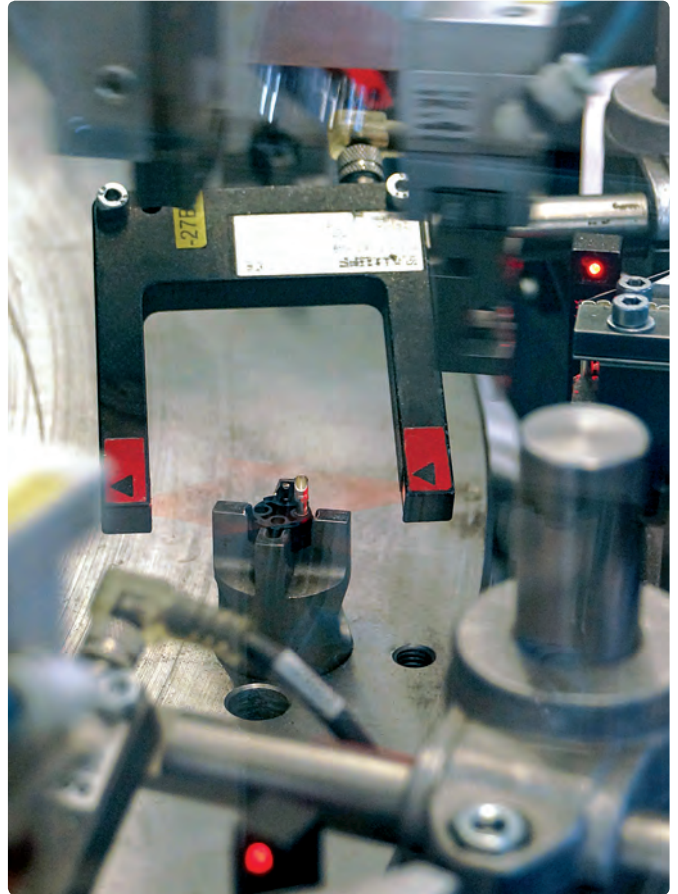
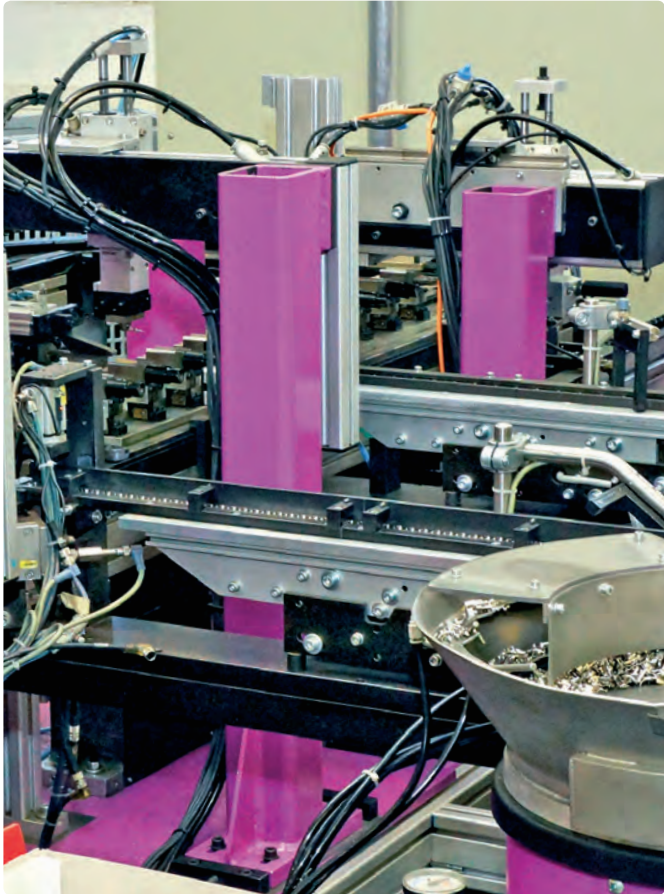
The professional entertainment industry depends on reliable components - night in, night out. Neutrik® – the world’s leading manufacturer of professional connector systems – sets the standards in technical reliability, warranty and durability. Availability of products as well as technical support and 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 ensure continuous quality and efficient delivery of goods to the right place at the right time.





## Neutrik® Part Number Guide

### NC3FAH1-B-0-D

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

Definitions, Abbreviations & Useful Information see page 166.



# XLR Connectors



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.





## Introduction

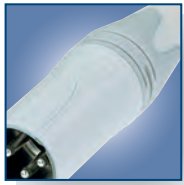
Neutrik XLR connectors are the most well known series of products manufactured by Neutrik, and have provided the professional audio industry a simple, yet striking, concept in connector features. We introduced our first XLR product more than 30 years ago. Today it is the accepted standard worldwide.

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.

# XLR Cable Connectors



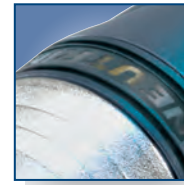
Ergonomic latch design



White painted housing



Circumferential ground shield contact



Neutrik hologram

## XX Series



NC3FXX

NC6MXX-B

## EMC-XLR Series



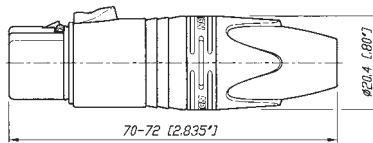
NC3FXX-EMC

NC3MXX-EMC

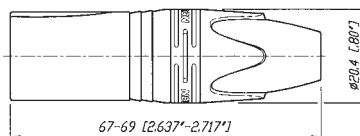
- The next generation of the worldwide accepted standard
- Unique cage type female contact – increases conductivity
- Female contact with “solder stop” for ease soldering
- Male connector without locking “window” – more robust housing, increases durability
- Improved chuck type strain relief - increases 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

- 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

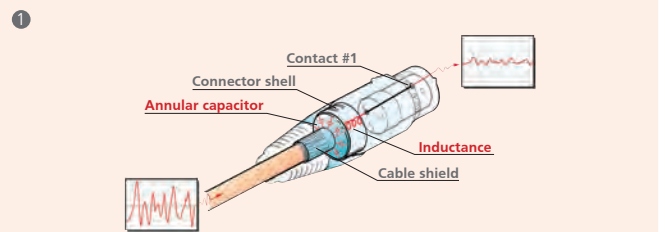
### NC\*FXX



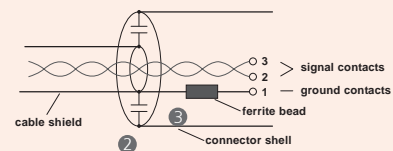
### NC\*MXX



\*: 3 - 7 contacts



- 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 temperature resistant insulator

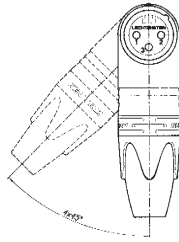


Velour chromium housing

## 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

## XX-HE Series



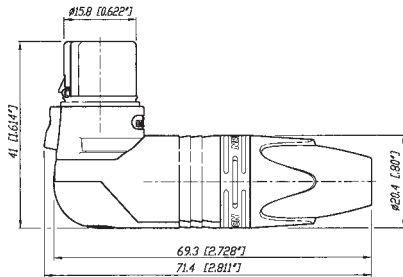
NC3FXX-HE



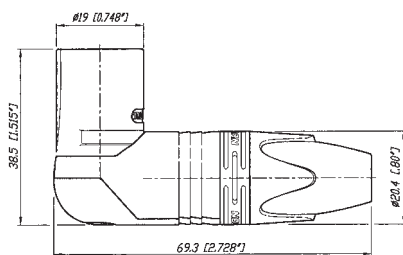
NC3MXX-HE

- Exclusive "High End" version of standard XX Series
- Premium velour chromium plating provides soft satin finish
- Extra high temperature resistant insulator material rated to 280 °C (536 °F), flammability UL94V-0
- Machined female contacts standard
- Insert is dark grey to distinguish it from standard XX-Series insulators
- Flammability UL 94V-0

### NC\*FRX

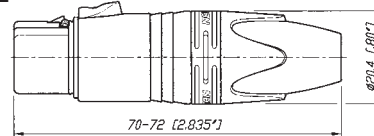


### NC\*MRX

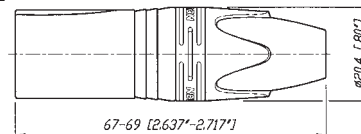


\*: 3 - 7 contacts

### NC3FXX-HE



### NC3MXX-HE





Large cable outlet



Ergonomic latch design



Neutrik hologram design



## XX-14 Series



NC3FXX-14



NC3MXX-14-B

- 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. 8.0 – 10.0 mm
- Bulk packed; must be ordered in multiples of 100

## XX Crimp Series



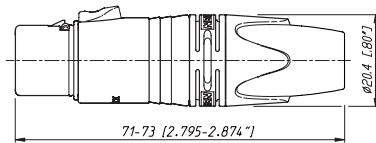
NC3FXX-HA-BAG



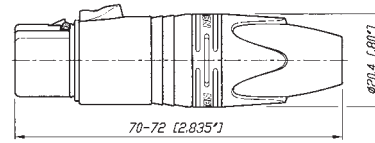
NC3MXX-HA

- 3 pin XX Series with crimp contacts
- Accommodates wire size AWG 24 - 22 or 0.22 – 0.34 mm<sup>2</sup>
- 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

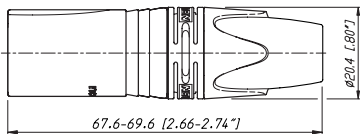
NC3FXX-14



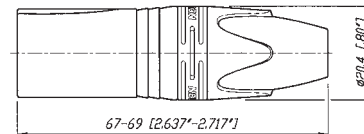
NC3FXX-HA

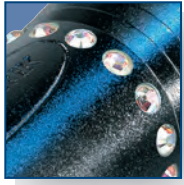


NC3MXX-14



NC3MXX-HA





Crystal stones



convertCON position 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

## convertCON



NC3FM-C-B



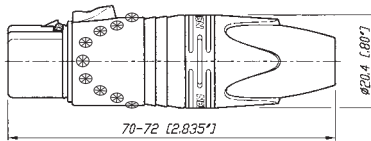
NC3FM-C

- 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

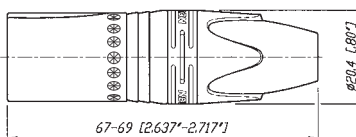


Convert male – female and vice versa

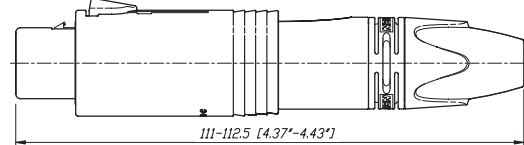
### NC3FXX-B-CRYSTAL



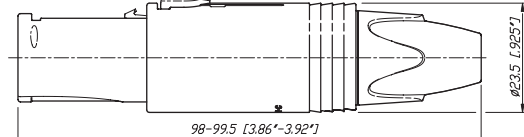
### NC3MXX-B-CRYSTAL



### NC3FM-C: Position Female



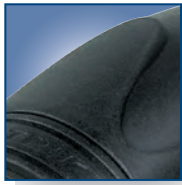
### NC3FM-C: Position Male



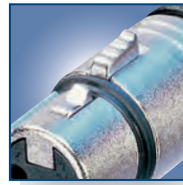
# XLR Cable Connectors



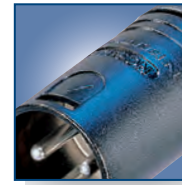
Rubber sealing protection



Neutrik original design



Female locking



Male metal locking window



## XX-HD Series

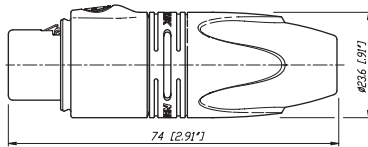


NC3FXX-HD-D

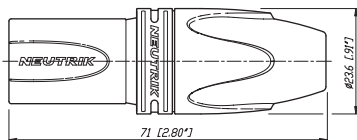
NC3MXX-HD-B-D

- "Heavy duty" cable connector for outdoor use
- Rubber sealing jacket protects against water ingress and mechanical shock
- Dust and water resistant 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

NC3FXX-HD-D



NC3MXX-HD-D



## X Series

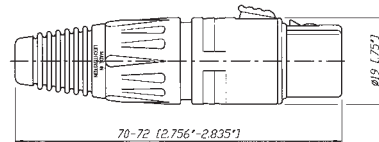


NC3FX

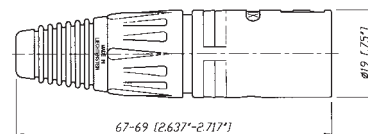
NC3MX + BSX-5

- 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

NC\*FX



NC\*MX



\*: 3 - 7 contacts





Rubber sealing protection



Metal bushing



Coding ring

## X-HD Series

## XCC Series



NC5FX-HD



NC4MX-HD

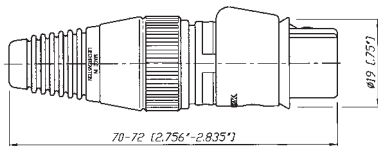


NC3FXCC

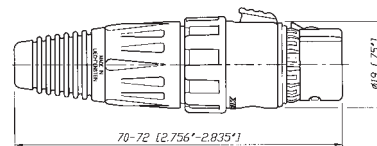
- "Heavy duty" cable connectors for outdoor use
- All metal design, male stainless steel
- NC\*FX-HD mates with NC\*MPR-HD chassis connector and NC\*MX-HD
- Dust and water resistant according IP 65 in mated condition
- Available in 3 – 5 pin configuration
- Metal bushing including O-ring

- 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 6.5 mm (.255") size "E" hex crimp (IEC 60803). Use part # HX-R-BNC with DIE-R-BNC-PT

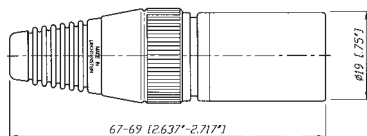
NC\*FX-HD



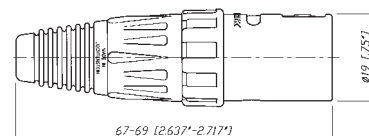
NC3FXCC



NC\*MX-HD



NC3MXCC



\*: 3 - 5 contacts



Switch activating ring



Locking ring

## FXS Series

## FX-SPEC Series



NC3FXS



NC3FXS-B

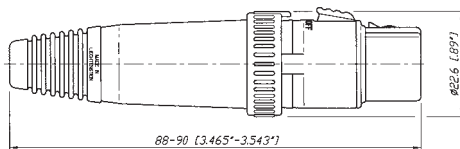


NC3FX-SPEC

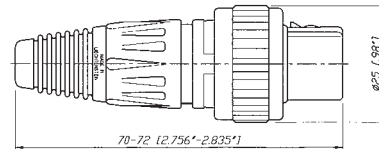
- Available exclusively in a 3 pin female configuration
- Features a noiseless ON/OFF switch which shorts pins 2 and 3 together muting the signal voltage between conductors
- For use with a microphone that does not have its own On/Off switch
- Rugged zinc diecast shell, long lasting and durable
- Chuck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

- Available in a 3 pin female standard configuration with Gold plated contacts
- Features a locking ring which is secured with a M 2.5 screw and 1.27 mm 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

### NC3FXS



### NC3FX-SPEC



Specification	XX & XX-14 & CRYSTAL	EMC Series	XX-HD Series	XX-HE Series	RX Series	XX Crimp Series	convert- CON Series
<b>Electrical</b>							
Number of contacts	3 - 7 <sup>1)</sup>	3	3	3	3 - 7	3	3
Contact resistance	≤ 3 mΩ	●	●	●	●	●	●
Insulation resistance - initial:	> 10 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	●	●	●	●	●	●
<b>Mechanical</b>							
Lifetime	> 1'000 cycles	●	●	●	●	●	●
Insertion / withdrawal force	≤ 20 N	●	●	●	●	●	●
Cable O.D. range	3.5 - 8.0 mm	● <sup>2)</sup>	●	6.0 - 8.0 mm	●	●	●
Max. wire size	3 pole: 2.5 mm <sup>2</sup> / AWG 14	●	AWG 20	●	●	●	-
	4 pole: 1.5 mm <sup>2</sup> / AWG 16	●	-	-	-	●	-
	5, 6, 7 pole: 1.0 mm <sup>2</sup> / AWG 18	●	-	-	-	●	-
Crimp tool:	6.5 mm Hex die (size "E" acc. to IEC 60352-2)	-	-	-	-	●	-
Crimp XX:	0.22 - 0.34 mm <sup>2</sup> / AWG 24 - 22	-	-	-	-	●	-
<b>Material</b>							
Shell	Zinc diecast (ZnAl4Cu1)	●	●	-	●	●	●
	Stainless steel	-	-	-	-	-	-
Shell plating	gal Ni or black Cr	●	gal Ni	-	velour Cr	●	●
Insert	Polyamide PA 6.6 30% GR	●	●	●	PPS 40% GR	●	●
Contacts - female 3 pole:	Bronze (CuSn8)	●	●	●	●	●	●
- female 4 – 7 pole & male:	Brass (CuZn39Pb3)	●	●	●	●	-	-
Contact surface	Silver gal 2 µm Ag	●	-	-	-	●	-
	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)	-	-	-	-	-	-
<b>Environmental</b>							
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	●	●	●	●	●	●

<sup>1)</sup>: XX-14, CRYSTAL: 3 pole

<sup>2)</sup>: XX-14: Cable O.D. 8.0 – 10.0 mm

Specification	X Series	XCC Series	X-HD Series	FXS Series	FX-SPEC Series
<b>Electrical</b>					
Number of contacts	3 - 7	3	3 - 5	3	3
Contact resistance	≤ 3 mΩ	●	●	●	●
Insulation resistance - initial:	> 10 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	●	●	●	●
<b>Mechanical</b>					
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 mm <sup>2</sup> / AWG 14	●	●	●	●
	4 pole: 1.5 mm <sup>2</sup> / AWG 16	●	-	●	-
	5, 6, 7 pole: 1.0 mm <sup>2</sup> / AWG 18	●	-	●	-
Crimp tool:	6.5 mm Hex die (size "E" acc. to IEC 60803)	-	●	-	-
Crimp XX:	0.22 - 0.34 mm <sup>2</sup> / AWG 24 - 22	-	-	-	-
<b>Material</b>					
Shell	Zinc diecast (ZnAl4Cu1)	●	●	female	●
	Stainless steel	-	-	male	-
Shell plating	gal Ni or black Cr	-	●	female	●
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	●
	or Gold gal 0.2 μm Au hard alloy over 2 μm Ni				Au
Latch lock	St3K32 (latch) / Ck 67 (spring)	●	●	●	●
	Zinc diecast (ZnAl4Cu1)	-	-	-	-
Strain-relief clamp	POM	●	●	●	●
Bushing	PA / PU	●	●	PU	●
Circumferential ground spring	Brass (CuSn6), Ni plated	-	●	-	-
Crimp ferrule	Brass (CuZn39Pb3), Ni plated	-	●	-	-
Coding ring	Polyamide PA 6 15% GR	-	●	-	-
Sealing jacket	EPDM	-	-	●	-
Securing ring	Brass (CuZn39Pb3)	-	-	-	●
<b>Environmental</b>					
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
<b>XX Series</b>								
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-WT	NC3MXX-WT	White painted	Silver	●	-	-	-	-
NC3FXX-**-D <sup>1</sup>	NC3MXX-**-D <sup>1</sup>	Nickel / Black Cr	Silver / Gold	●	-	-	-	-
NC6FSXX <sup>2</sup>	NC6MSXX <sup>2</sup>	Nickel	Silver	-	-	-	●	-
NC6FSXX-B <sup>2</sup>	NC6MSXX-B <sup>2</sup>	Black Cr	Gold	-	-	-	●	-
NC6FSXX-BAG <sup>2</sup>	NC6MSXX-BAG <sup>2</sup>	Black Cr	Silver	-	-	-	●	-
<b>XX-EMC Series</b>								
NC3FXX-EMC	NC3MXX-EMC	Nickel	Gold	●	-	-	-	-
NC3FXX-EMC-B	-	Black Cr	Gold	●	-	-	-	-
<b>RX Series</b>								
NC*FRX	NC*MRX	Nickel	Silver	●	●	●	●	●
NC*FRX-B	NC*MRX-B	Black Cr	Gold	●	●	●	●	●
NC*FRX-BAG	NC*MRX-BAG	Black Cr	Silver	●	●	●	●	●
<b>XX-HE Series</b>								
NC3FXX-HE	NC3MXX-HE	Velour Chromium	Gold	●	-	-	-	-
<b>XX-14 Series</b>								
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	●	-	-	-	-
<b>XX Crimp Series</b>								
NC3FXX-HA	NC3MXX-HA	Nickel	Silver	●	-	-	-	-
NC3FXX-HA-BAG	NC3MXX-HA-BAG	Black Cr	Silver	●	-	-	-	-
<b>convertCON Series</b>								
	NC3FM-C	Nickel	Gold	●	-	-	-	-
	NC3FM-C-B	Black Cr	Gold	●	-	-	-	-
<b>Crystal XLR</b>								
NC3FXX-B-CRYSTAL	NC3MXX-B-CRYSTAL	Black Cr	Gold	●	-	-	-	-
<b>XX-HD Series</b>								
NC3FXX-HD-D	NC3MXX-HD-D	Nickel	Gold	●	-	-	-	-
NC3FXX-HD-B-D	NC3MXX-HD-B-D	Metal Black	Gold	●	-	-	-	-
<b>Accessories and Assembly Tools</b>								
Detailed information on page 35 and 40.								
* : Number of Contacts								
** : Nickel or Black								
-D <sup>1</sup> : Bulk packed, to be ordered in multiples of 100 pcs.								
<sup>2</sup> : Switchcraft equivalent								

## Ordering Information for Cable Connectors

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

## Accessories and Assembly Tools

Detailed information on page 35 and 40.

\* : Number of Contacts

\*\* : Nickel or Black

-D<sup>1</sup>: Bulk packed, to be ordered in multiples of 100 pcs.

<sup>2</sup>: Switchcraft Equivalent



Colored coding ring



Lateral right PCB mount



Locking release tab



Ground contact

## A Series



NC3FAH



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

## AA Series

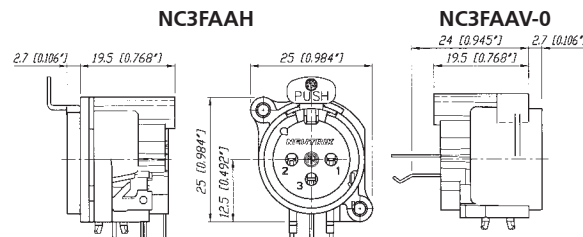
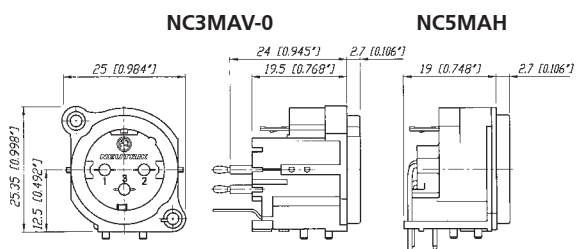
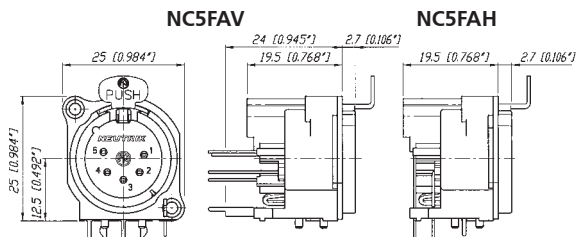


NC3FAAV2



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



### 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

## BA Series



NC3FBV1



NC3MBV



NC3FBAV2

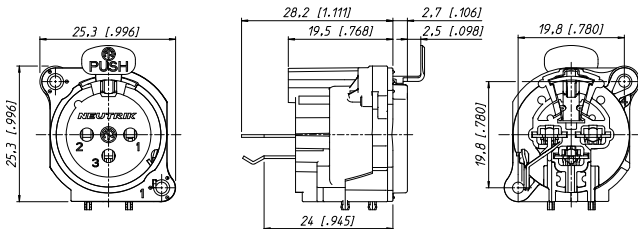


NC3MBAH

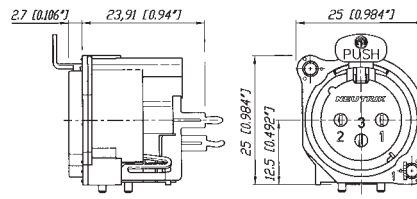
- The B Series XLR receptacle offers the same features as our A Series product line with the added feature of a metal ring
- Metal ring on shell (nickel or black) features complete EMC and RF protection
- Female versions available latchless
- Rear mount only
- "Tulip" type female contact
- Fastening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

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

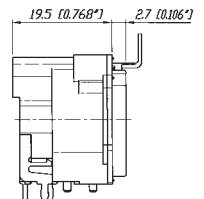
NC3FBV1



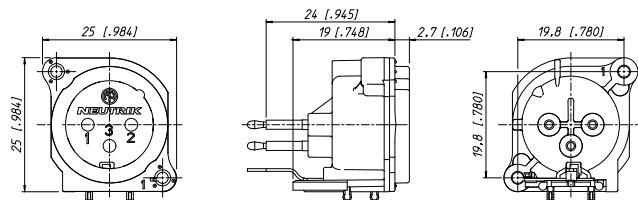
NC3FBAV



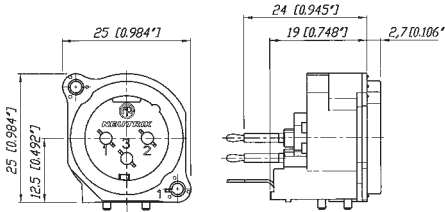
NC3FBAH



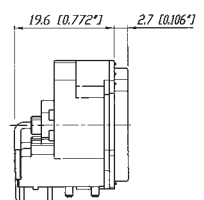
NC3MBV

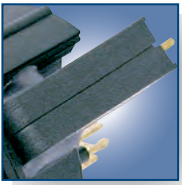


NC3MBAV



NC3MBAH





Incorporated switch



Insert removable



## A/B Series 5-pole switch



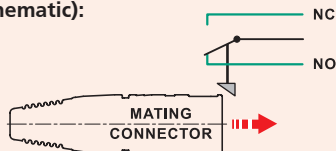
NC5FBV-SW



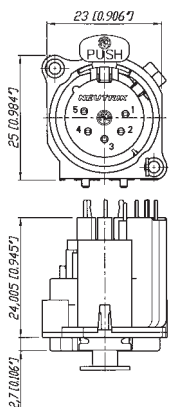
NC5MAV-SW

- 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

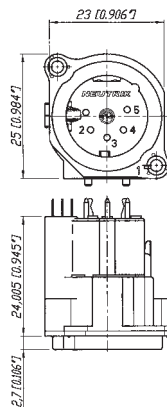
### Inserting (Schematic):



NC5FAV-SW



NC5MBV-SW



## D Series



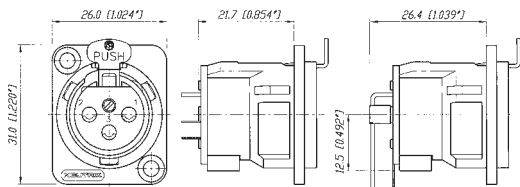
NC3FDM3-H-B



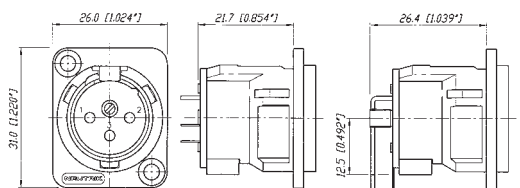
NC3MD-V

- "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

**NEW**



White painted housing

## DL Series

## DLX Series



NC3FD-L-1



NC7MD-L-B-1



NC3FD-LX-HE

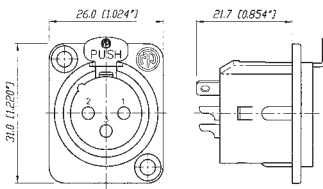


NC5MD-LX

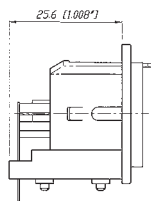
- Unified "D" metal shell
- Solder cups on 3 – 7 pole version
- Additional PCB mount on 4 and 5 pole
- Front and rear mountable

- 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

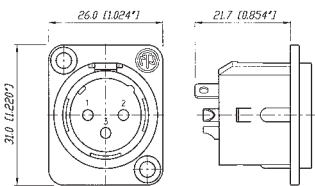
**NC3FD-L-1**



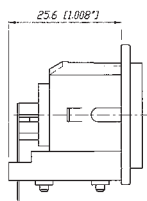
**NC\*FDM3-H**



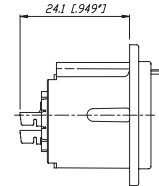
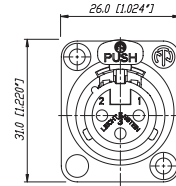
**NC3MD-L-1**



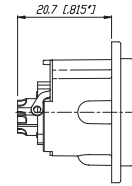
**NC\*MDM3-H**



**NC3FD-LX**



**NC\*MD-LX**



\*: 3 - 5 contacts

\*: 3 - 7 contacts



Crimp type contact



Circumferential ground spring

## DLX Crimp Series

## EMC Series



NC3FD-LX-HA



NC3MD-LX-BAG-HA



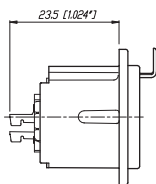
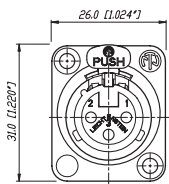
NC3FDX-EMC-SPEC

- 3 pole DLX Series with crimp contacts
- Accommodates wire size AWG 24 – 22 or 0.22 – 0.34 mm<sup>2</sup>
- 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

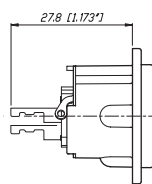
- 3 pole female XLR chassis connector with integrated capacitive shield to shell connection to avoid RF-interference and LF-noise
- 360° shield contact ensures best possible shielding and chassis contact
- D flange chassis for panel mount applications
- Includes the locking nut of the NC3FX-SPEC for 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.

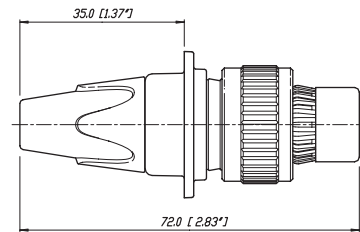
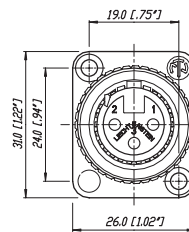
NC3FD-LX-HA



NC3MD-LX-HA



NC3FDX-EMC-SPEC





Sealing Gasket



Through hole fastening

## MPR-HD Series



NC3MPR-HD



NC5MPR-HD

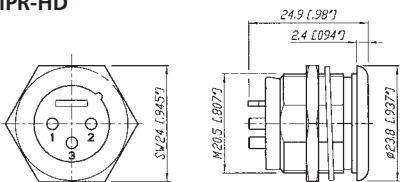
- IP 65 – in combination with NC\*FX-HD cable connectors
- Perfect for outdoor applications
- Sealing gasket for water tight panel mount
- Gold plated contacts



NC5MPR-HD

NC5FX-HD

NC3MPR-HD



\*: 3 - 5 contacts

## P Series



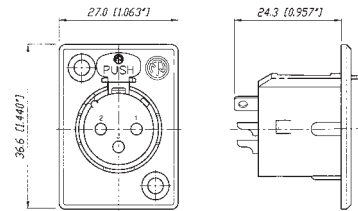
NC3FP-1



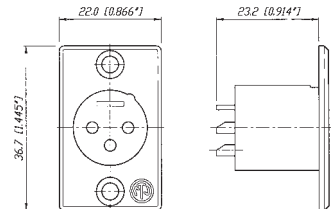
NC6MP-B

- 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, DxP; Cannon XLRx31, XLRx32
- 6 pole female version available with Switchcraft contact arrangement

NC3FP-1



NC3MP







Front end design



Solder termination

## Combo Series



NCJ9FI-V

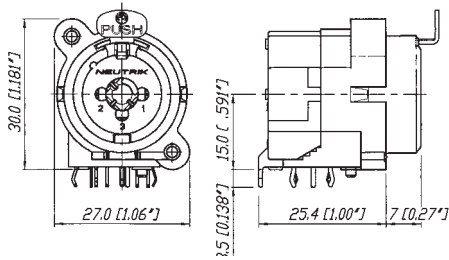


NCJ10FI-S

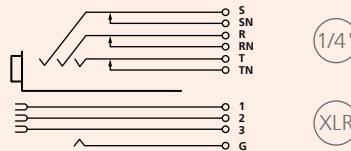
- Combined XLR receptacle and 1/4" phone jack
- Attractive "front end" design
- Saves rack space by combining 2 connectors in one housing
- Horizontal or vertical PCB mounting or hard wire soldering
- Fully normalised
- Stereo or mono version

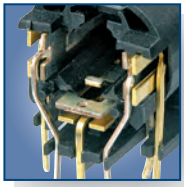
- Very low conductor capacitance, therefore suitable for digital audio
- Fastening: Self-tapping Plastite® screws with thread 2.9 x 1.06 and tri-rondular configuration (A screw)

NCJ10FI-H



Wiring: Example of NCJ9FI-H





Horizontal PCB mount



Vertical PCB mount



Hologram

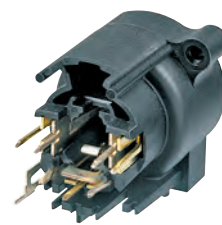
## Combo A Series



NCJ6FA-V



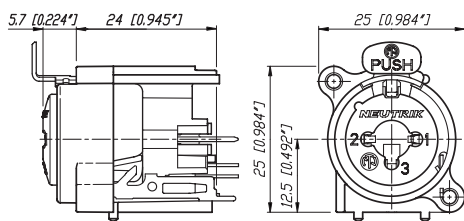
NCJ6FA-H-0



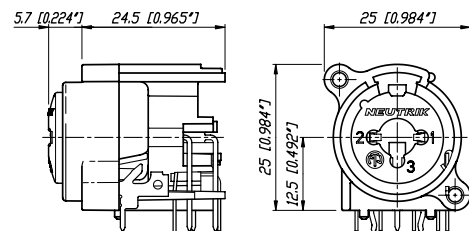
NCJ6FA-V-0

- 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

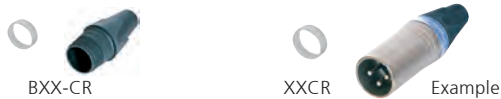


## Colour Coded Accessories

Part No.	Description	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White
		0	1	2	3	4	5	6	7	8	9
<b>XLR Cable Connectors</b>											
BSX-*	Colored bushing for X Series										
BXX-*	Colored bushing for XX Series										
XCR-*	Colored coding ring for X Series										
XXR-*	Colored coding ring for XX Series										
<b>XLR Chassis Connectors</b>											
ACRF-*	Colored ring for female 4 + 5 pole A Series and 3 pole BA Series										
ACRM-*	Colored 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	Bushing with translucent coding ring
BXX-14	Large bushing set (cable O.D. 8.5 mm)
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-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
ND*	dummyPLUG for female / male XLR chassis connector
NZP1RU-8	Panel 1RU with 8 D-shape housing cutouts
NZP1RU-12	Panel 1RU with 12 D-shape housing cutouts
SC*	Rubber sealing cap for female and male XLR receptacles
SCDP-*	D-Size sealing gaskets, color 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	DLX-HE Series
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## Electrical

Number of contacts	3 - 5	3	3	3-5	3	3-7	3	3
Contact resistance	≤ 6 mΩ	●	●	●	●	●	●	●
Insulation resistance - initial:	> 10 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	16 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 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 mm <sup>2</sup> / AWG 24 - 22	-	-	-	-	-	●	-

## Material

Insert	Polyamide PA 6.6 30% GR	●	●	●	●	●	●	PSS 40% GR
Shell	Zinc diecast ZnAl4Cu1	-	-	-	-	●	●	●
Shell plating	gal Ni or black Cr	-	-	●	●	●	●	velour Cr
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 teal, 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	-	-	-
Color coding		ACR* 2)	-	-	ACR* 2)	DSS	DSS	DSS
		(4 + 5 pole only)						

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

2) : 4 + 5 pole A series, 3 pole BA series

## Specification

MPR-HD Series	P Series	Combo Series	A Combo
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## Electrical

Number of contacts	3 - 5	3 - 7 (6*)	5 - 10	3 / 3
Contact resistance	≤ 6 mΩ	●	●	≤ 10 mΩ    ≤ 10 mΩ
Insulation resistance	- initial:	> 10 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	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	●	●	-    -	
Shell plating	gal Ni or black Cr	Ni	●	-    -	
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
Color coding		-	-	-    -

\* : P Series male 3 – 6 pole

## Ordering Information for Receptacles

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	Female	Male	Shell	Contact	3 pole	
<b>A Series</b>							<b>AA Series</b>					
NC*FAH-D		Black Plastic	Gold	-	● <sup>1)</sup>	● <sup>1)</sup>	NC3FAAH	NC3MAAH	Black Plastic	Gold	●	
	NC*MAH	Black Plastic	Gold	●	●	●	NC3FAAH-0		Black Plastic	Gold	●	
NC*FAH-0		Black Plastic	Gold	●	● <sup>1)</sup>	● <sup>1)</sup>	NC3FAAH1	NC3MAAH-1	Black Plastic	Gold	●	
	NC3MAH-0	Black Plastic	Gold	●	-	-	NC3FAAH1-0		Black Plastic	Gold	●	
NC3FAHL-0		Black Plastic	Gold	●	-	-		NC3MAAH-0	Black Plastic	Gold	●	
NC3FAHR-0		Black Plastic	Gold	●	-	-	NC3FAAH2		Black Plastic	Gold	●	
NC3FAH1-D		Black Plastic	Gold	●	-	-	NC3AAH2-0		Black Plastic	Gold	●	
NC3FAH1-0		Black Plastic	Gold	●	-	-	NC3FAAV	NC3MAAV	Black Plastic	Gold	●	
NC3FAHL1-D		Black Plastic	Gold	●	-	-	NC3FAAV-0		Black Plastic	Gold	●	
	NC3MAHL	Black Plastic	Gold	●	-	-	NC3FAAV1	NC3MAAV-1	Black Plastic	Gold	●	
NC3FAHL1-0		Black Plastic	Gold	●	-	-	NC3FAAV1-0		Black Plastic	Gold	●	
NC3FAHR1-D		Black Plastic	Gold	●	-	-		NC3MAAV-0	Black Plastic	Gold	●	
	NC3MAHR	Black Plastic	Gold	●	-	-	NC3FAAV2		Black Plastic	Gold	●	
NC3FAHR1-0		Black Plastic	Gold	●	-	-	NC3FAAV2-0		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	-	● <sup>1)</sup>	● <sup>1)</sup>						
	NC*MAV	Black Plastic	Gold	●	●	●						
NC*FAV-0		Black Plastic	Gold	●	● <sup>1)</sup>	● <sup>1)</sup>						
	NC3MAV-0	Black Plastic	Gold	●	-	-						
NC3FAV1-D		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	-	-	●						

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

<sup>1)</sup>: Grounding Option "2"

0: Retention Spring

## Grounding Options

### A / AA Series and B / BA Series

#### Female

"1"

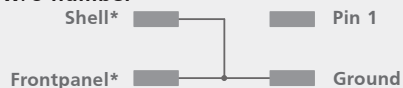


"2"



#### Male

w/o number



"0"



"1"



Shell\* : Contact to shell of mating connector

Frontpanel\* : Connection to frontpanel by fastening screw

## Ordering Information for Receptacles

Female	Male	Flange	Contact	3 pole
<b>B Series</b>				
	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	●
NC3FBH1-E-D	NC3MBV-E	Metal	Gold	●
NC3FBH2-E-D		Metal	Gold	●
	NC3MBH-E	Metal	Gold	●

Female	Male	Flange	Contact	3 pole	4 pole	5 pole
<b>BA Series</b>						
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

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
<b>D Series</b>								
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	●	-	-	-	-

<b>DLX Series</b>								
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	●	-	-	-	-
NC3FD-LX-WT	NC3MD-LX-WT	White	Silver	●	-	-	-	-

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
<b>DL Series</b>								
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	●	-	-	-	-

<b>DLX Crimp Series</b>								
NC3FD-LX-HA	NC3MD-LX-HA	Nickel	Silver	●	-	-	-	-
NC3FD-LX-HA-BAG	NC3MD-LX-HA-BAG	Black Cr	Silver	●	-	-	-	-

## Ordering Information for Receptacles

Female	Male	Shell	Contact	3	4	5	6	7
				pole	pole	pole	pole	pole

Shell	Contact	5	6	9	10
		pole	pole	pole	pole

### EMC XLR

NC3FDX-EMC-SPEC	Black Cr	Gold	●	-	-	-	-
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### Accessories

FDR-1	Black round panel mounting flange with screws for larger panel cut-outs
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### 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	●	●	●	-
---	-----------	--------	------	---	---	---	---

### 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

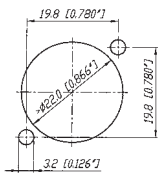
NCJ*FI-H	Black plastic	Gold	●	●	●	●
NCJ*FI-H-0	Black plastic	Gold	●	●	●	●
NCJ*FI-S	Black plastic	Gold	●	●	●	●
NCJ*FI-S-0	Black plastic	Gold	●	●	●	●
NCJ*FI-V	Black plastic	Gold	●	●	●	●
NCJ*FI-V-0	Black plastic	Gold	●	●	●	●

### Contact #

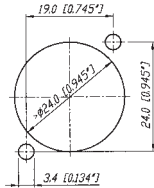
	1	2	3	T	R	S	TN	RN	SN	G	GN
NCJ5FI-*	x	x	x	x		x					x
NCJ6FI-*	x	x	x	x	x	x					x
NCJ9FI-*	x	x	x	x	x	x	x	x	x	x	x
NCJ10FI-*	x	x	x	x	x	x	x	x	x	x	x

## Panel Cutouts

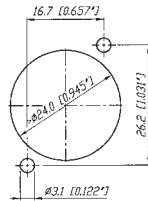
### A/AA/B/BA Series



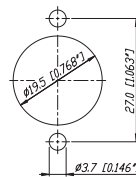
### D/DL/DLX Series



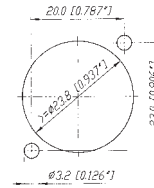
### P Series Female



### P Series Male



### Combo



### MPR Series



## Assembly Tools



HTXP



BTXX



HX-R-BNC



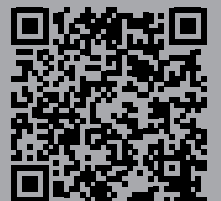
DIE-R-BNC-PT

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



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.



## 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.

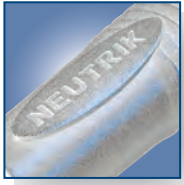
The plug line features:

- 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

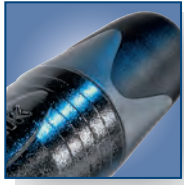
All plugs and jacks are specified to IEC 60603-11 and EIA RS-453 or the respective MIL standard.

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 33 and 34 or visit our website at [www.neutrik.com](http://www.neutrik.com).

# Plugs



Neutrik brand



Anti-kink bushing



Chuck type strain relief



White painted housing



Right angle plug

## 1/4" Phone Plug - PX and PRX Series



NP2X



NP3X-B



NP2X-WT



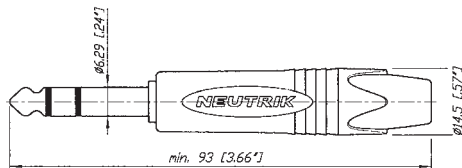
NP3RX-B

- 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 version available which accommodates cables O.D. up to 8 mm

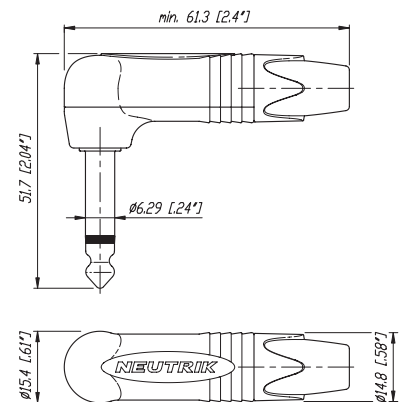
15.88 mm jack pitch:



NP3X



NP2RX





Crystal stones



Robust metal housing



Big bushing for cable up to 10 mm

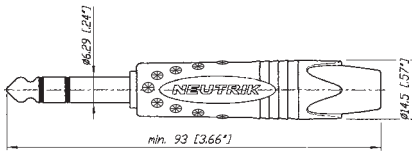
## crystalCON



NP2X-B-CRYSTAL

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

### NP2X-B-CRYSTAL



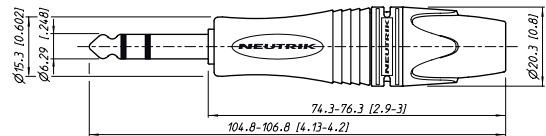
## jumboPLUG



NP2XL

- 2 or 3 pole 1/4" professional phone plug
- Up to 10 mm cable O.D.
- Robust diecast shell in stylish design
- Proven chuck type strain relief for reliable cable retention
- Ergonomic design for best handling convenience
- Precision machined one piece contacts – avoid hook up of tip contact

### NP3XL





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



NP2X-AU-SILENT



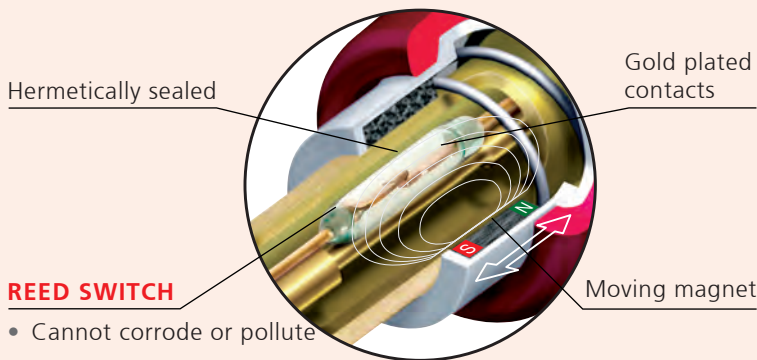
NP2RX-AU-SILENT

### Design Criteria

The silentPLUG 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 PX silentPLUG features a rugged metal shell enhanced with a rubber cushion overlay for improved shock protection.

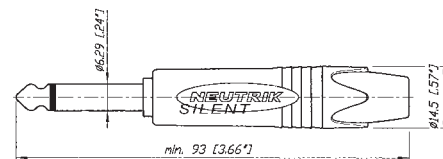
#### Detail Silent Switch:



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

- 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 version available which accommodates cables O.D. up to 8 mm

#### NP2X-AU-SILENT





Rotary knob to change the timbre



Right angle plug

## 1/4" Guitar Plug - timbrePLUG



NP2RX-TIMBRE

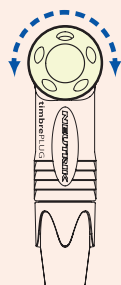
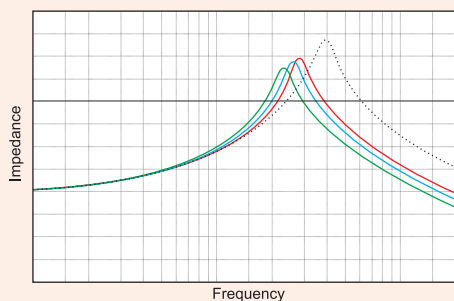
### Design Criteria

The characteristic sound of a guitar is not only influenced by the guitar (strings, pickups, body) alone but also by the attached instrument cable and the following guitar amp. The timbrePLUG provides the possibility to change the timbre of your guitar sound from neutral, clear sound to warm characteristics.

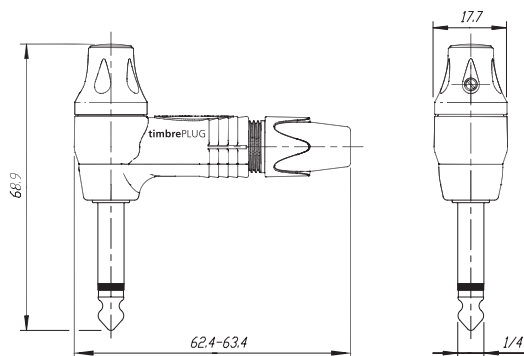
- Standard timbre of your cable plus 3 additional sound characteristics
- Slim right-angle plug with industry proven and reliable chuck type cable strain relief
- Sleek attractive design for convenient handling
- Gold plug finger, precision machined one piece contacts

### timbrePLUG - charakteristic

- neutral position / basic sound characteristic
- position 1 / sound characteristic 1
- position 2 / sound characteristic 2
- position 3 / sound characteristic 3



### NP2RX-TIMBRE





The standard of professional phone plugs



B-Gauge type

## 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



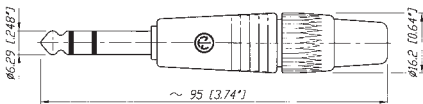
NP3TB-R



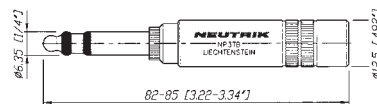
NP3CM-B

- 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

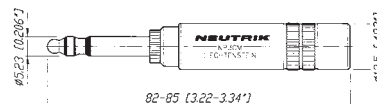
### NP3C



### NP3TB-B



### NP3CM-B







Bantam plug



Dual bantam plug



Gold plated contacts



Easy connector assembly

## 0.173" Bantam Type Miniature Plugs



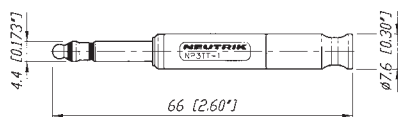
NP3TT-1-B



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

NP3TT-1



NP3TT-P



## 3.5 mm Right-Angle Stereo Plug



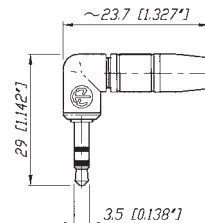
NTP3RC



NTP3RC-B

- 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

NTP3RC



## Specifications

1/4" Phone Plugs SILENT & CRYSTAL timbrePLUG & jumboPLUG	MIL / B-Gauge Type	0.173" Bantam Type	3.5 mm Stereo Plugs
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## 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 <sup>2</sup>	1	1 (NP3CM: 0.5)	0.25	0.22
	AWG	18	18 (NP3CM: 20)	24	24
Cable O.D.:	mm	4 – 7 (≤ 10: NP*XL)	4 – 7	4 – 4.8	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 PA 6 30 % GR	Zinc diecast (ZnAl4Cu1) Ni or black Cr plated	
Insulation:	Polyamide (PA 6.6 30 % GR)	●	●	●	PA 6.6 15% GR
Contacts:	Brass (CuZn39Pb3) 2 μm Ni (Su) or Au plated	●	●	● (Tip: CuSn6)	●
		● 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	●	●	●	●

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
NP2X-BAG	NP2RX-BAG	Black Cr	Nickel	●	Mono plug, black bushing
NP2X-B	NP2RX-B	Black Cr	Gold	●	Mono plug, black bushing
NP2X-WT	-	White painted	Nickel	●	Mono plug, white bushing
NP3X	NP3RX	Nickel	Nickel	●	Stereo plug, black bushing
NP3X-BAG	NP3RX-BAG	Black Cr	Nickel	●	Stereo plug, black bushing
NP3X-B	NP3RX-B	Black Cr	Gold	●	Stereo plug, black bushing
*-D	*-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, silent switch
NP2RX-AU-SILENT	red coated	Gold	IEC 60603-11 / EIA RS-453	Right angle mono plug, silent switch

### timbrePLUG - special Guitar Plug

NP2RX-TIMBRE	red coated	Gold	IEC 60603-11 / EIA RS-453	Right angle mono plug, timbre switch
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### crystalCON - 1/4" Professional Phone Plug

NP2X-B-CRYSTAL	Black Cr	Gold	IEC 60603-11 / EIA RS-453	Mono plug, black bushing, equipped with CRYSTALLIZED™ – Swarovski Elements
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### jumboPLUG - 1/4" plug for thick instrument and loudspeaker cables

NP2XL	Nickel	Nickel	IEC 60603-11 / EIA RS-453	Mono plug, black bushing
NP3XL	Nickel	Nickel	●	Stereo plug, black bushing

### 1/4" Professional Phone Plugs - PC Series

NP2C	Nickel	Nickel	IEC 60603-11 / EIA RS-453	Mono plug, black bushing
NP2C-BAG	Black Cr	Nickel	●	Mono plug, black bushing
NP2C/B	Black Cr	Gold	●	Mono plug, black bushing and gold contacts
NP3C	Nickel	Nickel	●	Stereo plug, black bushing
NP3C-BAG	Black Cr	Nickel	●	Stereo plug, black bushing
NP3C/B	Black Cr	Gold	●	Stereo plug, black bushing and gold contacts
NP2C-BAG-T-AU	Black Cr	Nickel + T: Gold	●	Mono plug, black bushing with gold tip
NP2C-T10AA	Nickel	Nickel	●	Mono plug, red bushing, with built-in 1:10 transformer to convert microphone levels to guitar inputs
NP2RCS	Nickel + black plastic	Nickel	●	Mono right-angle plug, black bushing
NP3RCS	Nickel + black plastic	Nickel	●	Stereo right-angle plug, black bushing
NP*C-D				Bulk packed to be ordered in multiples of 100

### MIL/B-gauge Type Phone Plugs

NP3TB-B	Black	Nickel	B-GAUGE BPO316	1/4" B-Gauge plug
NP3TB-R	Red	Nickel	●	1/4" B-Gauge plug
NP3TM-B	Black	Nickel	MIL-P-642/2	1/4" MIL plug
NP3TM-R	Red	Nickel	●	1/4" MIL plug
NP2CM-B	Black	Brass	MIL-P-642/4	Mono 1/4" MIL plug
NP2CM-R	Red	Brass	●	Mono 1/4" MIL plug
NP3CM-B	Black	Brass	MIL-P642/5A	Stereo 5.23 mm (0.206") MIL plug
NP3CM-R	Red	Brass	●	Stereo 5.23 mm (0.206") MIL plug

# Ordering Information

Part Number	Shell	Contacts	Standards Compatibility	Remarks
-------------	-------	----------	----------------------------	---------

## 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

## Accessories



BSP-\*



BPX-\*



BSTT-\*



BSTP-\*



PXR-\*



PCR-\*

BSP-*	Colored bushing for NP*C Series																				
BPX-*	Colored bushing for NP*X Series																				
BPX-L	Large bushing for NP*X Series up to 8.0 mm cable O.D.																				
BSTT-*	Colored sleeves for NP3TT Series																				
BSTP-*	Colored sleeves for NP3TT-P Series																				
PXR-*	Colored marking rings for NP*X Series																				
PCR-*	Colored marking rings for NP*C Series																				
*: Must be ordered in multiples of 100.																					
	<table border="1"> <thead> <tr> <th>Black</th> <th>Brown</th> <th>Red</th> <th>Orange</th> <th>Yellow</th> <th>Green</th> <th>Blue</th> <th>Violet</th> <th>Grey</th> <th>White</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> </tr> </tbody> </table>	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White	0	1	2	3	4	5	6	7	8	9
Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White												
0	1	2	3	4	5	6	7	8	9												

## Assembly tool



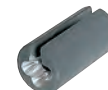
HX-TT-1



HX-R-BNC



HX-R-BNC-PJ



HTXP



HTPXS

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
HTPXS	Hand tool to hold shell of PX Plug



1/4" cable jack with locking



Neutrik cable retention

## Locking 1/4" Cable Jacks



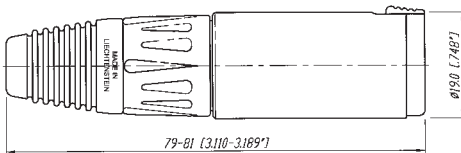
NJ3FC6



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

### NJ3FC6





Release latch

## Locking 1/4" Chassis Jacks



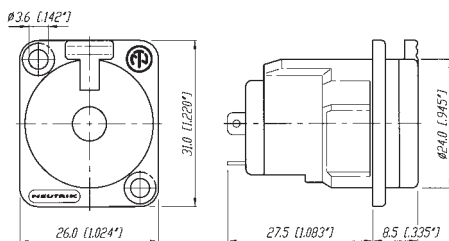
NJ3FP6C



NJ3FP6C-BAG

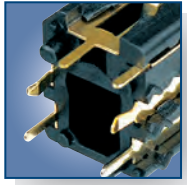
- Mates with all mono or stereo plugs specified to EIA RS-453
- Dimensionally compatible with D Series (31 x 26 mm)
- Securely locking chassis jack
- Solder terminals
- Special version with black plastic shell
- Choice of grounding option (see on [www.neutrik.com](http://www.neutrik.com))

### NJ3FP6C



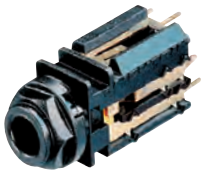


Snapping cap



Solder tags

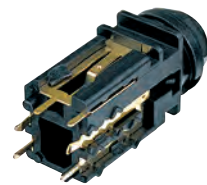
## 1/4" Vertical Jacks



NJ\*FD-V



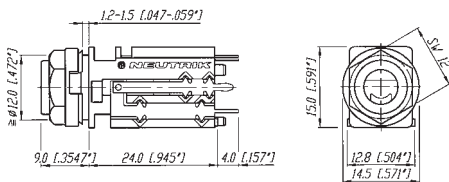
NJ6TB-V



- 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

### NJ\*FD-V



\*: 2, 3, 5, 6



Half threaded nose



Chrome ferrule



Plastic nut

## M Jacks



NMJ4HHD2



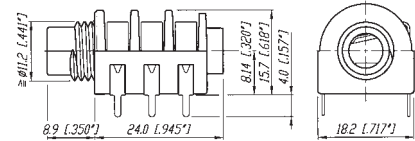
NMJ2HC-S



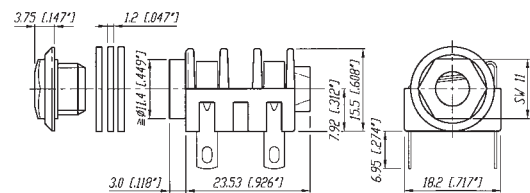
NMJ6HFD2

- 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 separately
- Fascia appearance in plastic or chrome

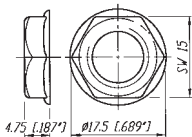
NMJ6HHD2



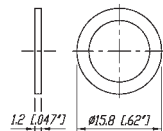
NMJ4HC-S



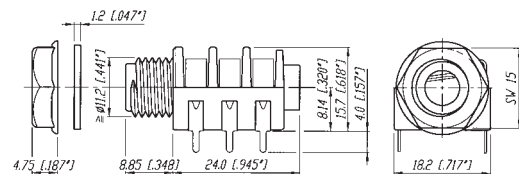
NRJ-NUT-B



NRJ-WB (washer)



NMJ6HFD2







Half threaded nose



Chrome nose

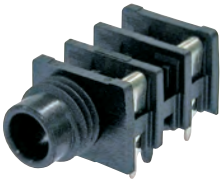


Chassis ground contact

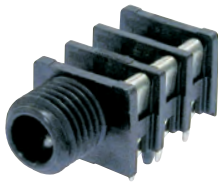


Gold plated contact

## Slim Jacks



NRJ4HH-1



NRJ6HF-1



NRJ6HM-1



NRJ-NUT-B



NRJ-NUT-MK



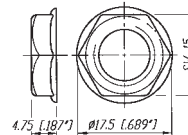
NRJ-NUT-MS



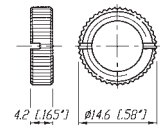
NRJ-NUT-MN  
(Metal Nose only)

- 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 separately

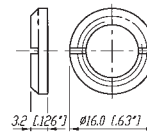
NRJ-NUT-B



NRJ-NUT-MK

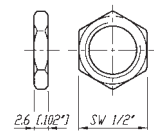


NRJ-NUT-MS

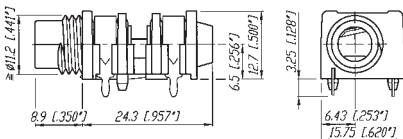


NRJ-NUT-MN

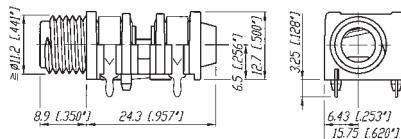
(Only compatible with metal nose).  
Thread pitch is a 3/8" 32 UNEF 2A.



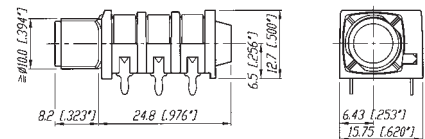
NRJ4HH-1



NRJ4HF-1



NRJ6HM-1





Plane nose



Quick fix nose



Quick fix nut

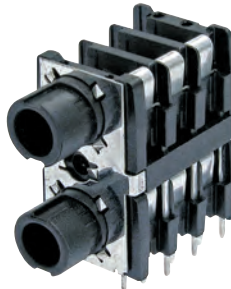


Fully threaded nose

## Stacking Jacks



NSJ8HC



NSJ12HL



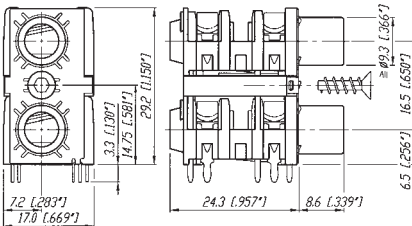
NSJ12HH-1



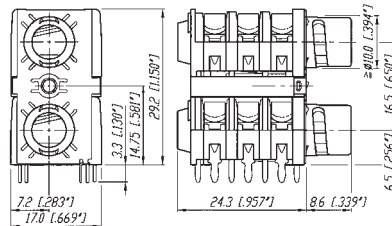
NSJ12HF-1

- 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

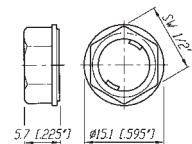


NSJ12HL

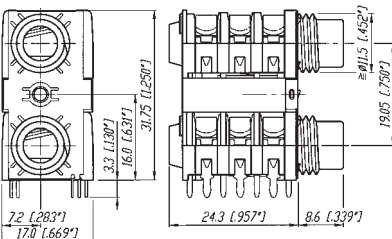


NSJ-NUT-B

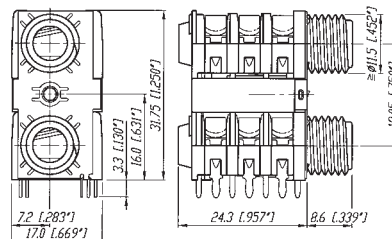
(Quick fix nut)



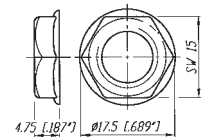
NSJ12HH-1



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 mm <sup>2</sup> / 18 AWG <sup>Ⓞ</sup>	-	-	-
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 or black	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)	CuSn6	CuSn6	CuSn6
Contact surface		0.2 μm Au	2 μm Ag	gal 2 μm Ag / 0.2 μm Au	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	●	●	●	●	●

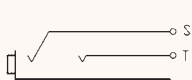
Ⓞ... max. for soldering tag

## 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	-	-	-	-

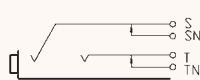
## Circuits:

Mono unswitched



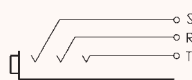
N\*J2\*\*

Mono switched



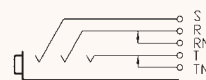
N\*J4\*\*

Stereo unswitched



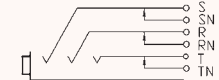
N\*J3\*\*

2x switching  
(normalling) Stereo



N\*J5\*\*

3x switching  
(normalling) Stereo



N\*J6\*\*

EXCEPTION: NRJ\*HM-1-PRE & NRJ\*HH(F)-1 ..... Sleeve not switched

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

NRJ6HM-1	Black/Plastic	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Stereo, metal threaded nose
NRJ6HM-1-AU	●	Gold	●	●	Stereo, metal threaded nose, gold plated contacts
NRJ-NUT-MN	Metal	-	-	-	Hexagonal 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

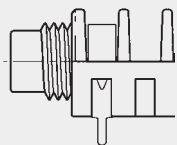
All Slim jacks are for PCB mount only.

Mounting nuts must be ordered separately, except for Stacking Jack type NSJ8HL and NSJ12HL.

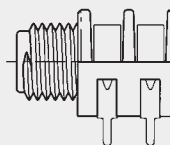
### Ordering Key:

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

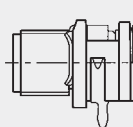
Nose: **-H**



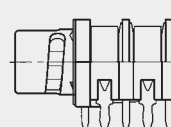
**-F**



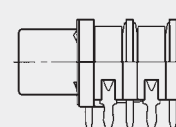
**-M**



**-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	Black/Plastic	•	•	•	Plastic Chassis
NJ3FP6F-P-BAG	Black/Plastic	•	•	•	Plastic Chassis

## Accessories



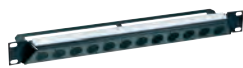
DSS



SCDR



NDJ



NJP1RU-12



SCDX



SCDP-\*

NJP1RU-8	Panel 1RU housing with 8 D-shape cutouts		NDJ	dummyPLUG for 1/4" chassis jack
NJP1RU-12	Panel 1RU housing with 12 D-shape cutouts		SCDX	Hinged cover seals locking 1/4" chassis jack, IP42 rated
DSS-*	Lettering plate, colored plastic		SCDP-*	D-Size sealing gaskets, color coding
SCDR	Rear end protection cover for locking 1/4" chassis jack			(*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)

## 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)

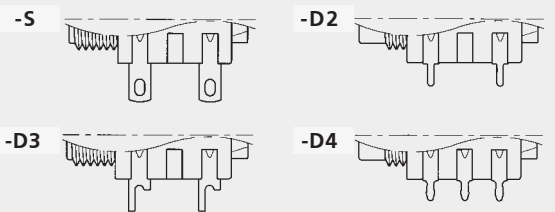
## M Jack

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:

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

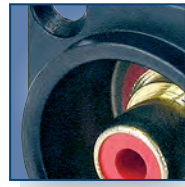




Gold plated contacts



Soft-touch surface



Phono socket

## Profi® RCA Series

## Phono Socket



NF2C-B2



NF2D-4

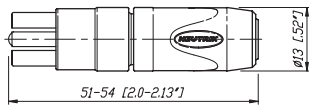


NF2D-B-6

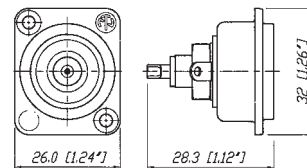
- Makes ground before signal contact and breaks signal before ground
- No more disturbing noise and broken speaker cones
- Precisely machined to our demanding quality standards
- Neutrik unique chuck type strain relief
- Gold plated contacts
- Sleek barrel with soft touch surface and coloured shrink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

- Precisely machined to our demanding quality standards
- Gold plated contacts

### NF2C-B2



### NF2D-\*



\*: available in 9 colors see page 63

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 mm <sup>2</sup> / 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-8	Panel 1RU housing with 8 D-shape cutouts
NZP1RU-12	Panel 1RU housing with 12 D-shape cutouts
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, IP 54 rated



Easy housing

## plug2PLUG



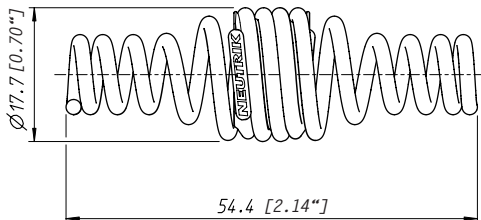
NA2JJ



Application: 1/4" Phone Plug to 1/4" Phone Plug

- The plug2PLUG is a simple yet sophisticated plug adapter for a quick and easy connection of two mono TS plugs.

### NA2JJ



## Ordering Information

### plug2PLUG

NA2JJ      2 pole coupler to extend two 2-pole 1/4" Phone Plugs





# Loudspeaker Connectors



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.



## 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.

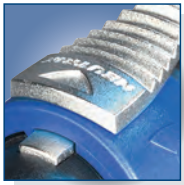


A traditional speakON stands for:

- 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**



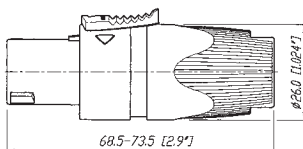
NL4FX



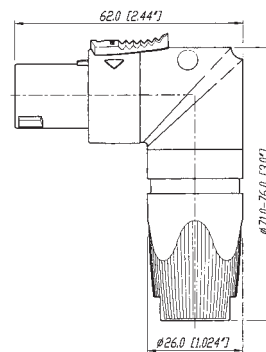
NL4FRX

- Current rating 40 A rms continuous
- Up to 50 A audio signal, duty cycle 50%
- Only 3 parts, easy to assemble
- High impact materials – long-lasting and reliable
- Easy and extremely precise locking system "Quick Lock"
- Improved grip on latch
- 1 piece strain relief, chuck for 7 to 14.5 mm cable O.D.
- Color coding possible
- Improved screw-type termination for highest pull-out force
- Integrated design guarantees "Made by NEUTRIK®"

NL4FX



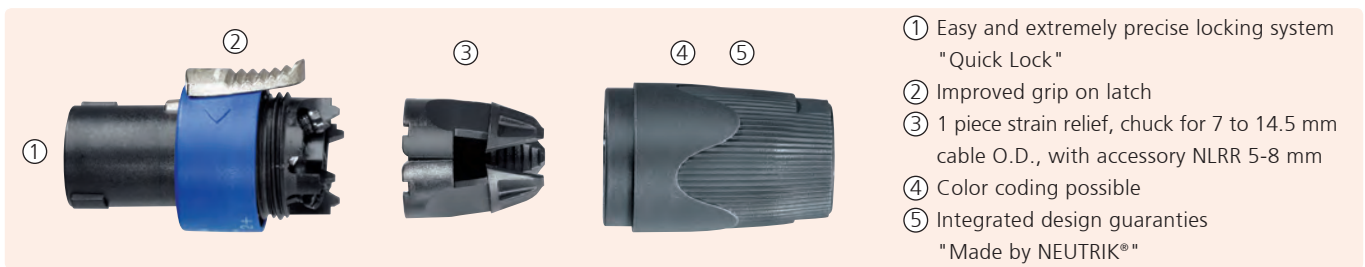
NL4FRX



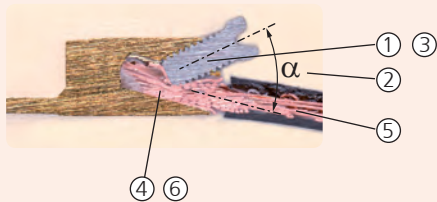
## Design Criteria

This second generation of speakON connectors features higher current rating for the operation of high power speakers and amplifiers carrying more than 1'000 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.

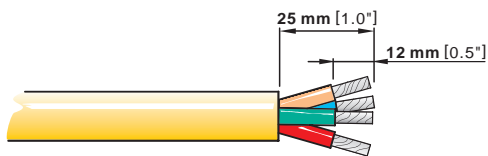


## Improved SPX-Series screw contacts! (Wire position after assembly)



## Assembly

Prepare cable as shown.

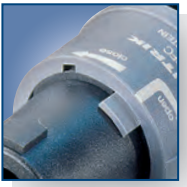


### HINT:

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 Pozidriv #1 only.





Locking ring



Quick lock



## speaKON FC Cable Connector Series



NL2FC



NL4FC



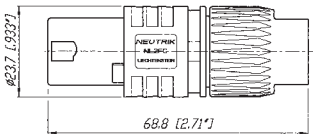
NL8FC

- 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

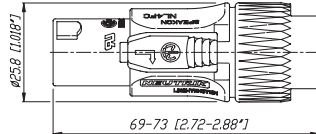
### Keying:



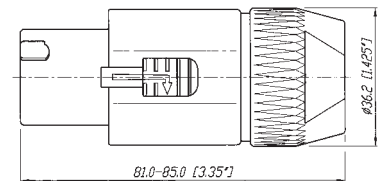
NL2FC



NL4FC



NL8FC





1/4" Jack adapter



Extention coupler

**s p e a k O N Adapter**



NA4LIX



NL4MMX



NL8MM

**NL4MMX:**

Features permanent secure connection on a speakON cable connector using 2<sup>nd</sup> lock.



Secure Lock!

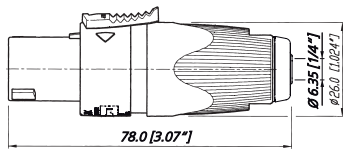
**NL4MMX + NL4FX:**

(locked on the cable)

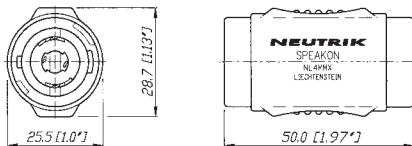
Changes gender to male when permanently locked on the cable.



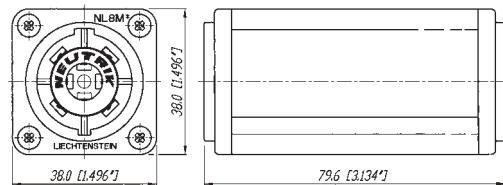
**NA4LIX**



**NL4MM**

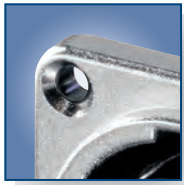


**NL8MM**





Reinforced locking area



Nickel housing



3/16" flat tabs



Vertical PCB mount



s p e a k O N Chassis Connector



NL2MP



NL4MD-H-1



NL4MD-H-3



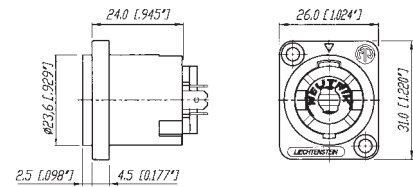
NL4MPR



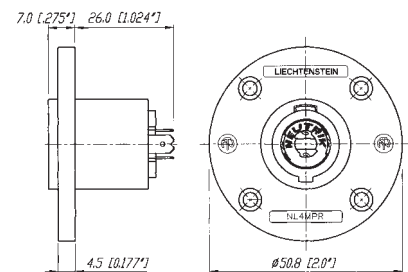
NL8MPR

- 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

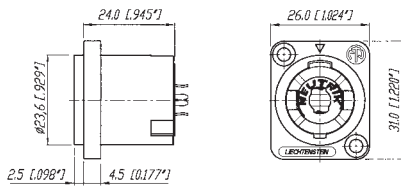
NL4MP



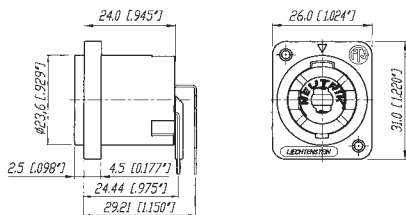
NL4MPR



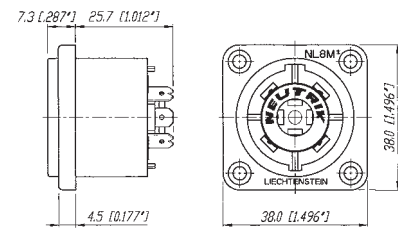
NL4MD-V



NL4MD-H

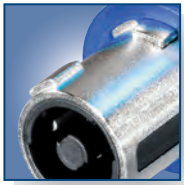


NL8MPR









Reinforced locking



Latch lock



XL-solder contacts



Protected latch

## s p e a k O N STX Series Cable Connectors



NLT4FX-BAG



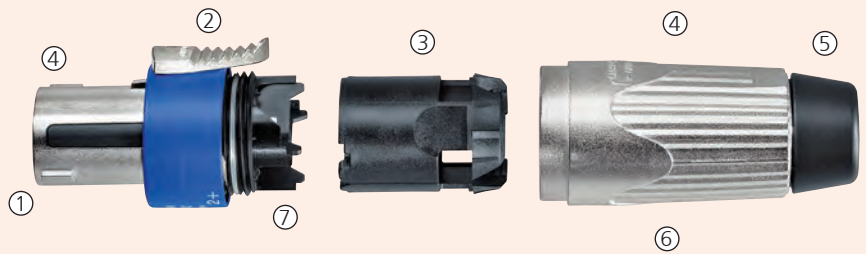
NLT4MX



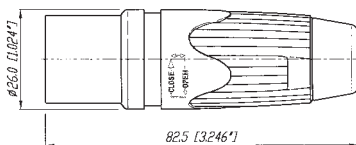
NLT8FX

- Up to 50 A current rating
- Robust and durable all metal housing
- Sealing ring provides weatherproof IP 54 rating in mated condition on 4 pole version
- Reinforced metal quick lock system for ease and precise locking
- Extra large solder contacts for up to 6mm<sup>2</sup> (AWG10) wires
- Mate with all available speakON products

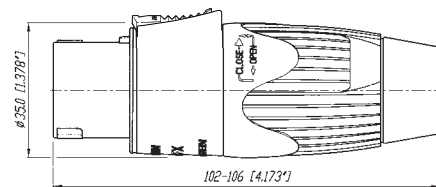
- ① Easy and extremely precise locking system "Quick Look", reinforced with metal
- ② Improved grip on latch
- ③ 1 piece strain relief, chuck for cables from 9 to 16 mm O.D.
- ④ Extreme rugged "Touring Approved"
- ⑤ Rubber sealing boot
- ⑥ Integrated Design guarantees "Made by NEUTRIK®"
- ⑦ X-large solder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



**NLT4MX**



**NLT8FX**





Robust metal housing



XL-solder contacts



1/4" flat tabs



speaKON® STX Series Chassis Connectors



NLT4FP-BAG



NLT4MD-V



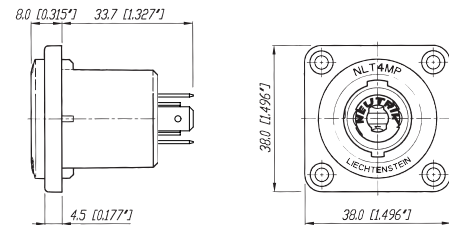
NLT4MP-BAG



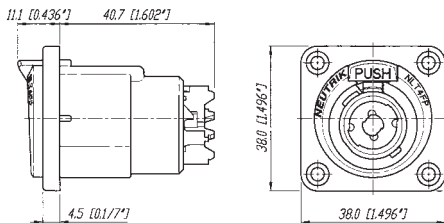
NLT8MP-BAG

- 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 A audio current
- Uses precise "Quick Lock" system
- Mates with all currently available speakON products
- 4 pole version has UL recognized components, CSA listed

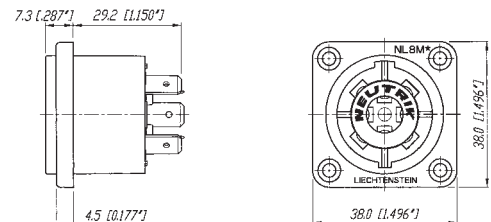
NLT4MP



NLT4FP



NLT8MP



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	●
CSA approved rating:	25 A (4 pole) rms continuous	●	●	-	10 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 mm <sup>2</sup> (AWG 12)	-	4 mm <sup>2</sup> (AWG 12)	● (ST)	-	-
	soldering	6 mm <sup>2</sup> (AWG 10)	6 mm <sup>2</sup> (AWG 10)	4 mm <sup>2</sup> (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 (ZnAl4Cu1)	-	●	-	-	-	●
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 50 (8 pole, mated cond.)	-	●	-	-	-	●
Flammability:	UL94HB	●	●	●	●	●	●
Finger- Safety:	IP2X/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

## Ordering Information Cable Connectors

### SPX Series

NL4FX	4 pole	Cable connector with chuck and black bushing
NL4FX-2	4 pole	Cable connector with chuck and red bushing
NL4FX-4	4 pole	Cable connector with chuck and yellow bushing
NL4FX-5	4 pole	Cable connector with chuck and green bushing
NL4FX-9	4 pole	Cable connector with chuck and white bushing
NL4FRX	4 pole	Right-angle cable connector with chuck and black bushing

### FC Series

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

### Adapters

NA4LJX	4/2 pole	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

### STX Series

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

### Accessories



### SPX Series

LCR-*	Colored 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-angle 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

### FC Series

BSL-*	Colored bushing for NL4FC
BSL-WR	Weather resistant dripboot

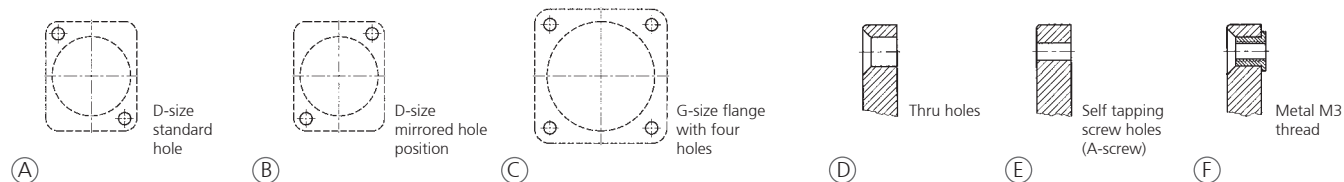
\*: 0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White; Must be ordered in multiples of 100.



## Ordering Information Chassis Connectors

Flange layout:

Hole layout:



	Pole	Flange size	Flange layout	Hole layout	Color	Wiring	Remarks
--	------	-------------	---------------	-------------	-------	--------	---------

### Traditionally

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	grey	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*	

### STX Series

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	
NLT4MD-V-1	4	square G-size flange	C	D	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*	

### Combo Series

NLJ2MD-V	2	D-size	A	E	green	vertical PCB	
NLJ2MD-V-1	2	D-size	A	E	grey	vertical PCB	
NLJ2MD-H	2	D-size	A	E	green	horizontal PCB	

\*: 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



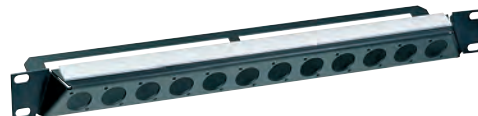
SCDP-\*



SCNLT



Example: SCNLT + NL4MP



NZP1RU-12

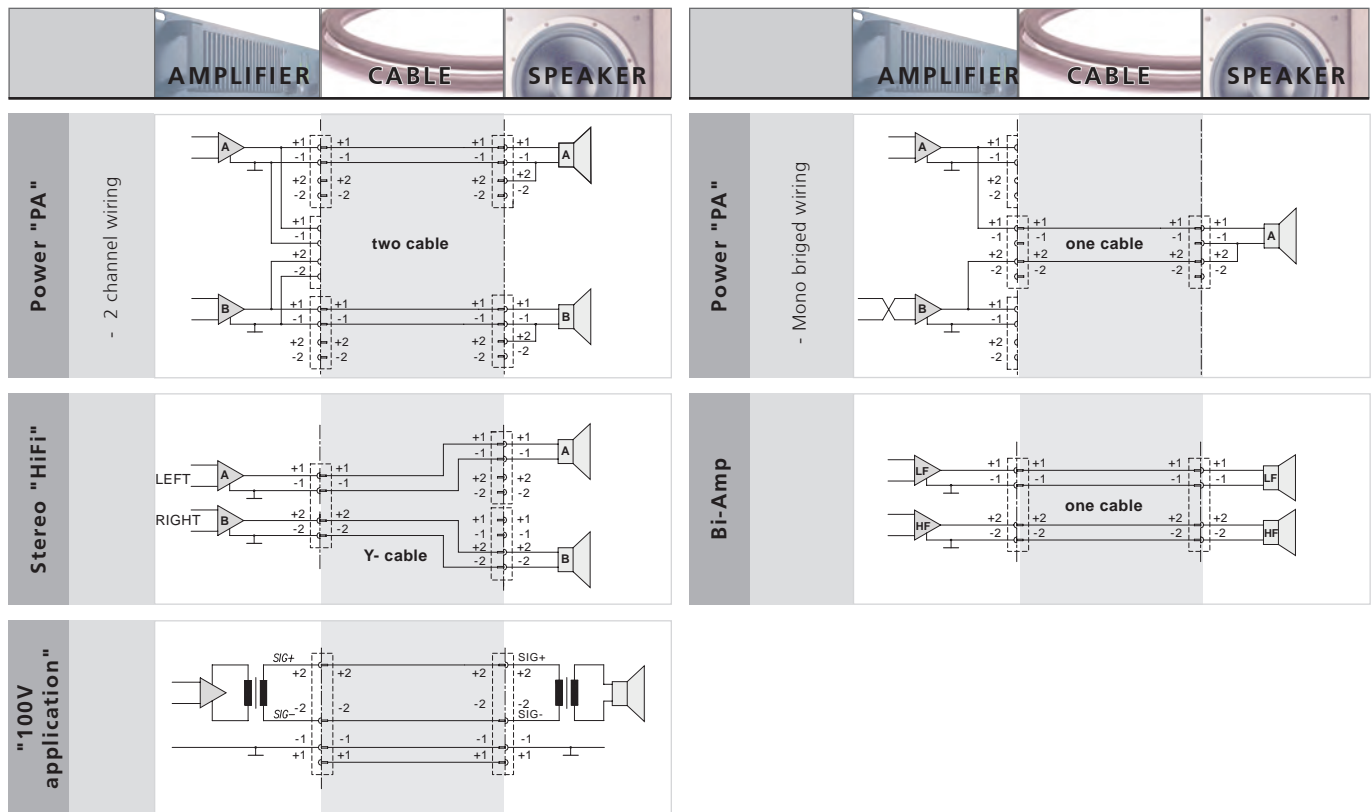
A-Screw-1-8	Black self tapping PLASTITE® screw 2.9 x 8 for rear panel mount
NLFASTON	FASTON® receptacle for tabs with "positiv lock" for use with NL4MP, NL4MPR, NL8MPR, Pack of 100 pcs.
MFD	M3 mounting frame for D-size chassis
NDL	dummyPLUG for 2 & 4 Pole chassis connector
NZP1RU-8	Panel 1RU housing with 8 D-shape cutouts
NZP1RU-12	Panel 1RU housing with 12 D-shape cutouts
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, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
SCNLT	Gasket for NLT4MP (To make a cabinet with an Amphenol EP cutout airtight, use the rubber sealing which covers the entire hole.)

## Wiring Suggestion

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

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

	AMPLIFIER	CABLE	SPEAKER
<b>Stereo ("HiFi")</b>	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-
<b>POWER ("PA") Standard</b>	three NL4MP sockets "A" socket: left channel pins 1+/1- "B" socket: right channel pins 1+/1- right channel pins 2+/2-	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 "-"
<b>Bridged mono</b>	"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 "-"
<b>Bi-Amp</b>	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-
<b>4 Way System</b>	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



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## 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.

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## Fiber Optic

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

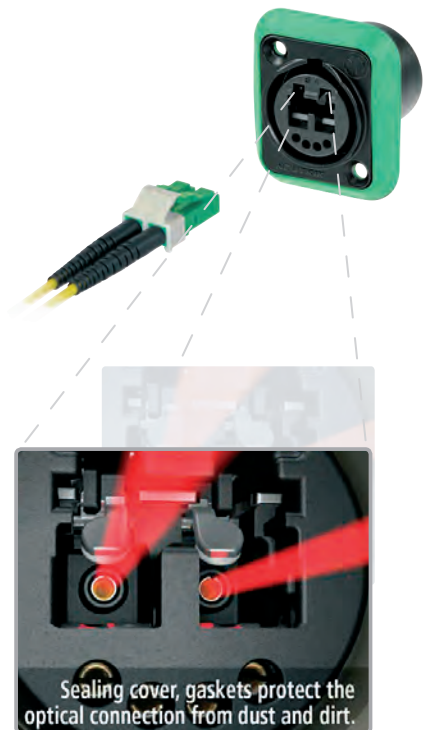
- Network (Audio, Data or DMX) transmissions with >70 m (mobile) or >100 m (installation) length, based on Pro Equipment (e.g. Mixers) offering fiber optic connections or using a fiber optic switch
- Digital HD video transmissions > 15 m (e.g. DVI, HDMI or KVM projection) using fiber optic media converters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

The trend to use connectors out of the Datacom / Computer industry for Pro Audio and Broadcast applications (RJ45 connectors) did also not stop short of fiber optic connectivity. Conventional Datacom fiber optic connectors like ST, SC or LCs are optimized for one time permanent connection but can not meet the rough requirements of mobile applications and high mating cycles as required for the entertainment industry. By necessity used military connectors have been expensive and showed either high attenuation and return loss or no dust protection.

## Design Criteria

Neutrik as connectivity specialist for rough entertainment applications solved these problems when launching the opticalCON DUO fiber optic connection system in 2005. The reliable and simple concept has proven its ruggedness and low maintenance which led to a wide acceptance in the pro audio and broadcast industry. The opticalCON system is based on LC 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.

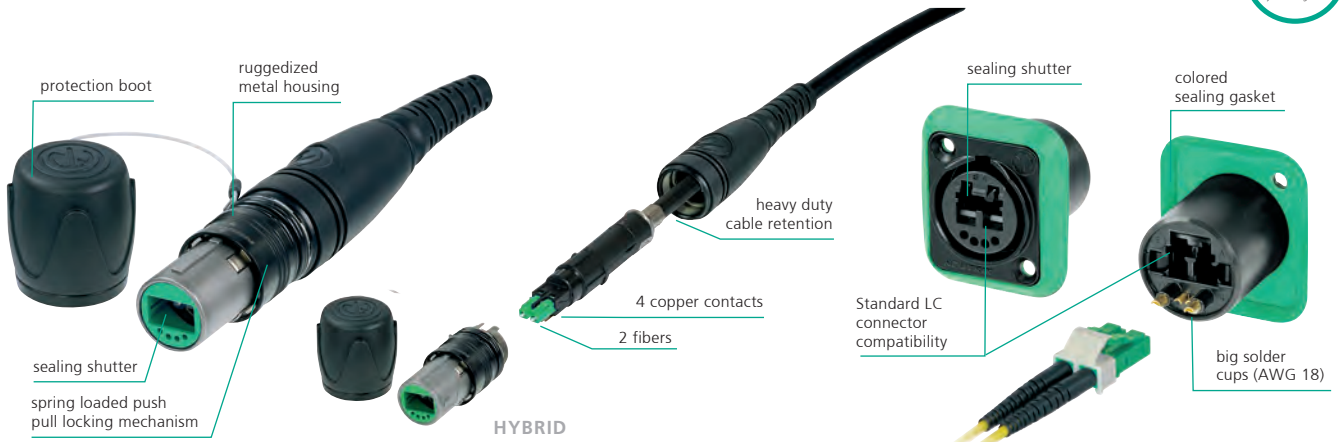
opticalCON QUAD and opticalCON MTP® are based on the proven opticalCON DUO concept but are, with 4 or respectively 12 fiber channels, focused to POINT-TO-POINT interconnections. These systems copes with the increasing need for fiber optic channels. opticalCON is more than a connector, the optimized connection system includes a variety of customized rugged cables, drums, breakout and pulling solutions. Well-known equipment manufacturers of pro equipment as well as key users in broadcast and rental / touring trust in the opticalCON. It is our goal to turn it to an industry standard comparable to the widely used etherCON series.



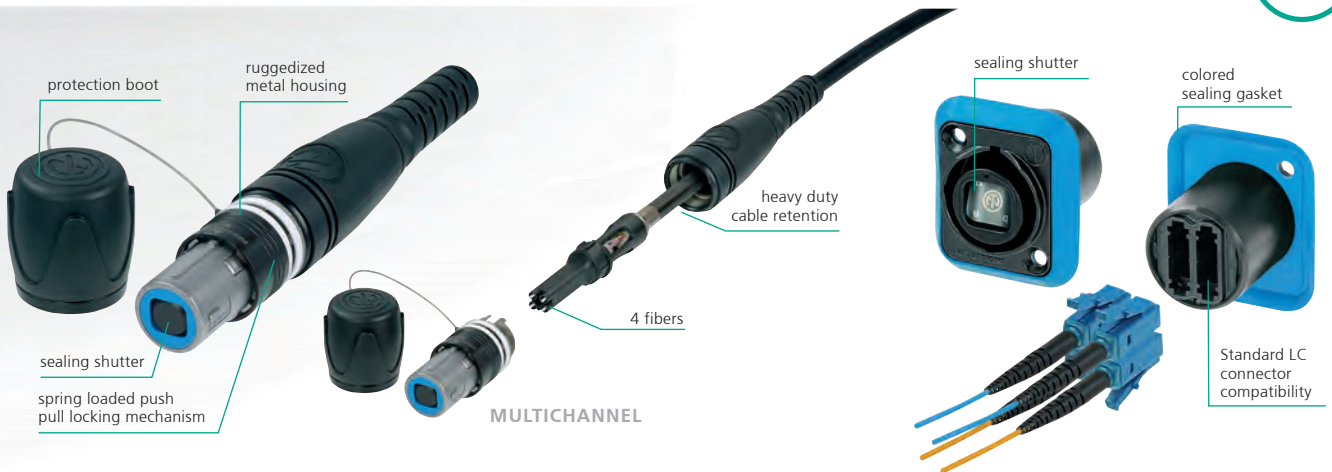
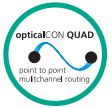
- MOBILE USE
- RUGGED
- LOW MAINTENANCE
- SIMPLE INTEGRATION
- COST EFFECTIVE



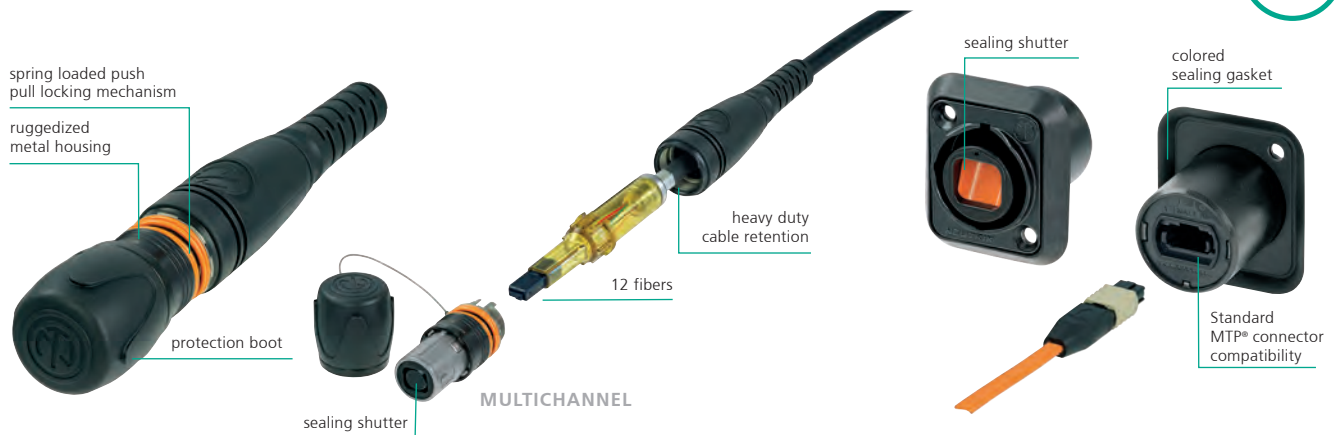
# opticalCON DUO



# opticalCON QUAD



# opticalCON MTP®





Rugged metal housing



Cable drum



Rubber coated protection cover



Rear LC connection



Sealing shutters



Chassis with transceiver adapter

## Cable Connector Assembly

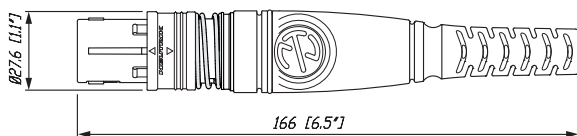


NKO2S-A\*

NKOY\*  
SPLIT Cable

- Ruggedized and dirt-protected 2-channel fiber optic connection system
- Waterproof acc. to IP 65 in mated condition
- Color-coded cable connector comes pre-assembled with a choice of 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
- Hybrid assembly available
- Custom split cable assembly

### NKO2M-4S75\*



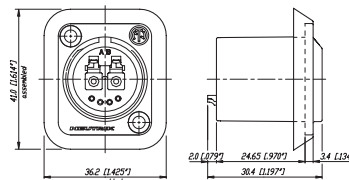
## Chassis Connector



NO2-4FDW-A with SCDP-0

- Suggested OEM equipment connectors due to LC front compatibility
- Accommodates standard LC connectors on the rear for simple installation
- Designed as feedthrough with automatic sealing shutter
- Shutter with silicone gasket protects optical connection from dust and dirt
- Waterproof acc. to IP 65 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





Colour Coding



Sealed and rugged housing



Sealing shutter



Sealed housing



Rear LC connection

## Cable Connector Assembly

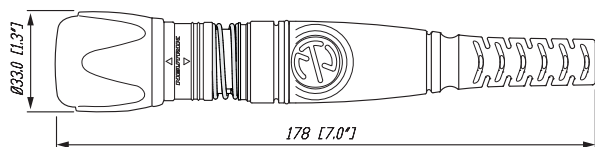


NKO4S-A\*

NKOP8\*  
SPLIT Cable

- Ruggedized and dirt protected 4 channel fiber optic connection system
- For POINT-TO-POINT multichannel routing
- Innovative shutter guarantees low maintenance
- Dust and water resistant according to IP 65 in mated condition
- Color-coded cable connector comes pre-assembled with a choice of mobile field cables
- Up to 12-channel custom SPLIT cables
- 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
- POWER SPLIT 4 or 8 channel cable combines multi-fiber and power in one cable
- Field repairable

### NKO4



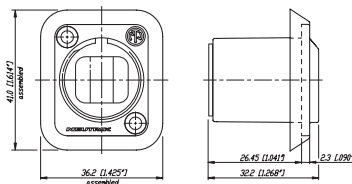
## Chassis Connector



NO4FDW-A with SCDP-0

- Rugged 4 channel POINT-TO-POINT multi-channel routing solution
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Waterproof acc. IP 65 in mated condition
- Accommodates standard LC connectors on the rear for cost effective and simple installations
- Rubber sealing gasket (black, blue, green to identify fiber mode)

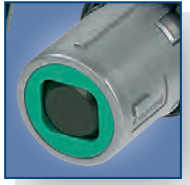
### NO4FDW-R



Find more details in the opticalCON Guide and on [www.neutrik.com](http://www.neutrik.com).



Rugged metal housing



Spherical shutter



Rubber sealing gasket



Rear MTP® connection

### Cable Connector Assembly



NK012S\*

- Ruggedized and dirt-protected 12-channel fiber optic connection system
- For POINT-TO-POINT multichannel routing based on MTP® technology
- Cable connector features rugged all-metal housing and heavy-duty cable retention
- Innovative shutter guarantees low maintenance
- Dust and water resistant according to IP 65 in mated condition
- Enhanced maintenance
- Reliable Push-Pull locking mechanism
- Color-coded cable connector comes pre-assembled with a choice of mobile field cables

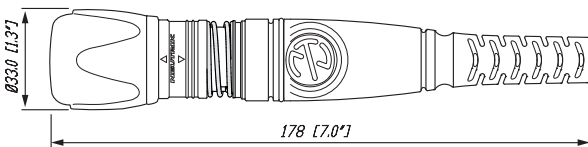
### Chassis Connector



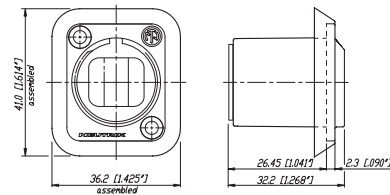
NO12FDW-A with SCDP-0

- Ruggedized and dirt-protected 12-channel fiber optic connection system
- For POINT-TO-POINT multichannel routing
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Dust and water resistant according to IP 65 in mated condition
- Accommodates standard MTP® connectors on the rear for simple installation
- Rubber sealing gasket (black, blue, green to identify fiber mode)

NK012S\*



NO12FDW-A







Colour coding



DUO, QUAD & MTP® Couplers



Frame with opticalCON



Individual frame application

## Breakout Boxes & Coupler



NO4SABB1-4



NAO2S-H1W-A

- Breakout boxes are used to split multichannel connections as the opticalCON QUAD and MTP to either dual or single channels
- Dust and waterproof according to IP 65 in mated condition
- Weatherproof opticalCON DUO, QUAD and MTP® coupler (adapter) for cable extensions

## 19" Z-Panel & Plates



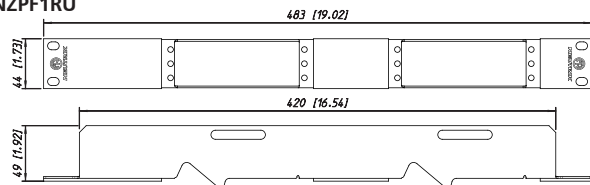
NZPF1RU



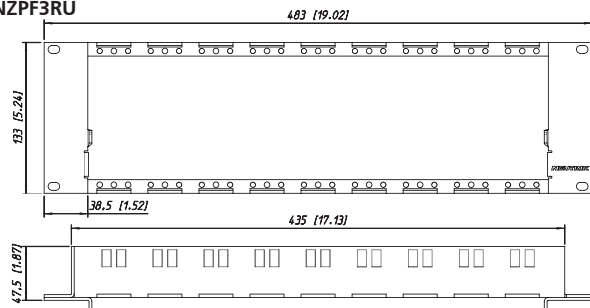
NZPF3RU equipped with frame plates

- Space saving design, ideal for cramped rack applications such as OB truck I/O panels
- Frame plate can be loaded with opticalCON DUO or QUAD and E2000 or ST or SC
- Frames can be equipped with frame plates (D-shape) or blind plates
- Best cable bend protection
- 1 RU or 3 RU frame

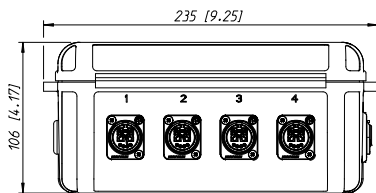
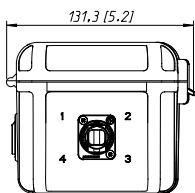
NZPF1RU



NZPF3RU



NO4SABB1-4



Find more details in the opticalCON Guide and on [www.neutrik.com](http://www.neutrik.com).



Breakout Box with powerMONITOR



3RU frame with up to 9 powerMONITORs



1RU rack mount



Robust rear connection

## powerMONITOR



NO4S-4F-2R-PM

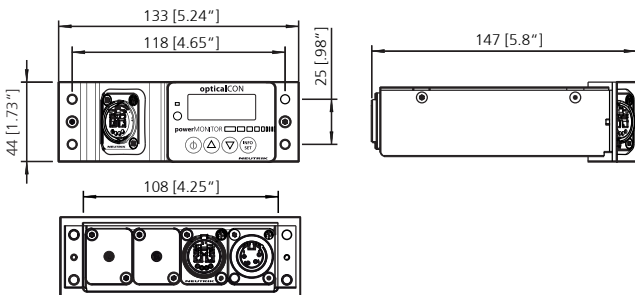


The opticalCON powerMONITOR is a cost-saving, purpose-built measurement (monitoring) device for professional fiber optic broadcast, audio and video applications.

With simultaneous monitoring of attenuation for up to 4 transmission channels, powerMONITOR provides an immediate, "on air" view into fiber optic signal strength. Visual and audible alarms can be set individually for each fiber channel, based on each channel's power budget. powerMONITOR provides clear status information, delivers early warnings for potential problems, and assists with maintenance scheduling.

- On-air monitoring of fiber optic transmission quality
- Simultaneous power measurement (+0.0 / -0.1 dB measurement accuracy) of up to 4 channels
- Programmable threshold alarms
- Rack mount and mobile units
- Operates on rechargeable battery power or on mains power with fail-safe battery backup in case of unexpected mains power interruption
- Low loss (0.5 dB maximum split loss)
- Wavelength selectable: multimode 850 nm or 1'300 nm, single mode 1'310 nm, 1'550 nm or WDM (wave division multiplexing)
- External output for alarm signal

### NO4S-4F-2R-PM





Coupler NAO4MW-A



Breakout Cable



opticalCON Field assembly



19" x 1 1/2 RU Rack unit



Ergonomic panel



Wielan rear connection

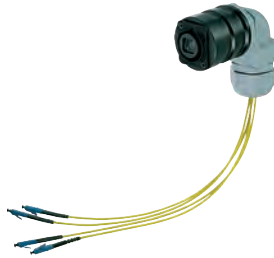
## Accessories & opticalSWITCH



CAS-FOCD-ADV



CAS-FOMD



NAOBO



opticamSWITCH

- Rugged couplers to extend two opticalCONs
- Breakout cables
- NAOBO Kit – for flexible chassis mounting solution
- Assembly Tools:
  - Case for opticalCON field assembly
  - Fiber Optic Cleaning Devices (CAS-FOCD-ADV)
- Transceiver adapter connects opticalCON chassis and multi / singlemode transceivers
- Color coding
- Sealing covers

The opticamSWITCH is the ultimate solution for fiber optic camera routing within broadcast studios. The device allows switching of unlimited camera positions between several studios and control rooms, eliminating the need for high-maintenance, risky matrix patch fields using SMPTE patch cables. The device works on trendsetting, silica-based PLC (planar lightwave circuits) equipped with TO (thermo optic) switches. The innovative design guarantees rugged and safe non-blocking fiber plus camera power switching without any moving parts. The LAN-based remote control software simplifies work, shows switching and camera status, and enables broadcast production automation.

- Thermo Optic PLC Switch
- Non Blocking Structure
- Intelligent Power Working Circuit
- LAN Remote Control

Find more details in the opticalCON Guide and on [www.neutrik.com](http://www.neutrik.com).



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 IP 54 is achieved on the CAT 5 version by assembling the waterproof kit SE8FD while CAT 6 versions are IP 65 rated as standard.

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

### etherCON chassis overview

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



Rugged diecast shell



Colored coding Bushing

## Cable Carriers



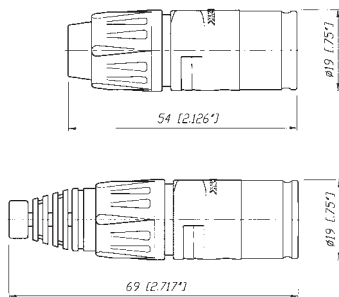
NE8MC



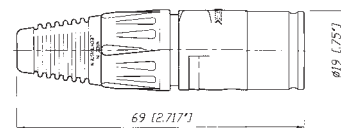
NE8MC-1 + BSE2

- The RJ45 system for harsh and demanding environment
- Cable connector carrier accepts the most common RJ45 plugs
- Cable connector 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 connector carrier does not include RJ45 plug

NE8MC

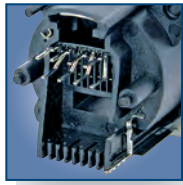


NE8MC-1





Horizontal PCB



Vertical PCB



IDC Terminals

## Receptacles



NE8FAV + ACRF-2



NE8FBH



NE8FAV-YK



NE8FDV



NE8FDV-Y110-B

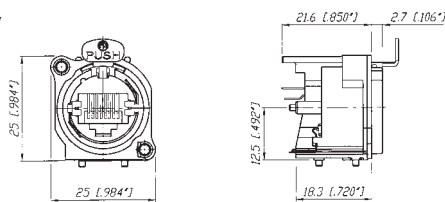


NE8FDH-C5E

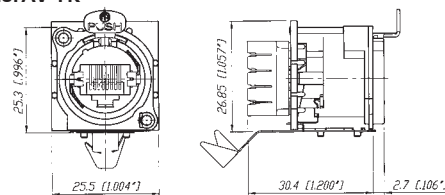
- "A / B" and "D" sized receptacles available in vertical and horizontal PCB or IDC terminations
- Accommodates NE8MC carriers or any standard RJ45 Plug
- D-versions with unified metal flange equal to "D" series-XLR, speakON, powerCON and BNC Bulkhead

- 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)

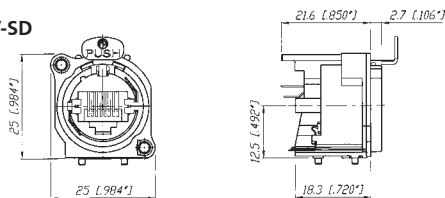
NE8FAV



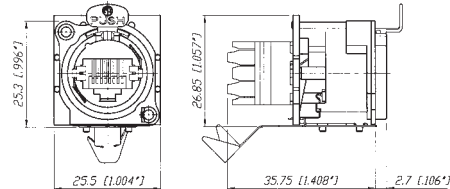
NE8FAV-YK



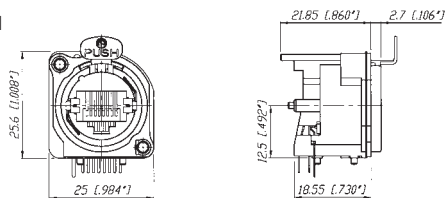
NE8FAV-SD



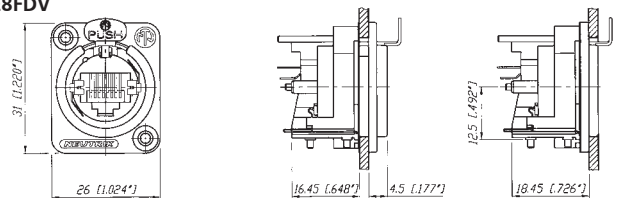
NE8FAV-Y110



NE8FBH



NE8FDV





Completely closed housing



Light pipe



NE8FDP rear side



Locking latch

Shielded & Lighted



NE8FBH-S



NE8FBH-LED



NE8FDP



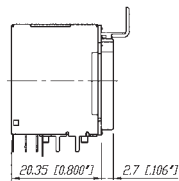
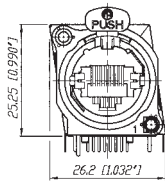
NE8FF

Feedthrough

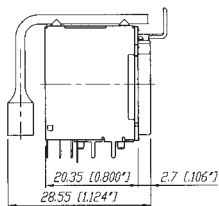
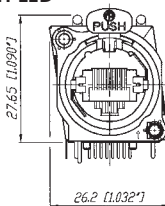
- Comprehensive shielding granted by completely closed metal housing
- Improves EMC performance of appliance even in unmated condition
- Lighted version offers in addition various illuminating indication possibilities by means of two separate light pipes
- Light pipes illuminated by standard 3 mm LEDs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

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

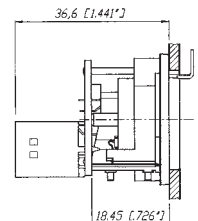
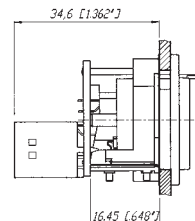
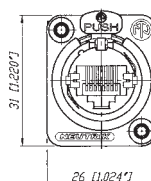
NE8FBH-S



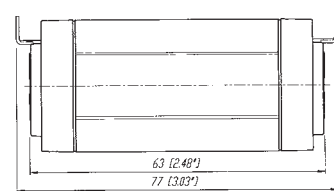
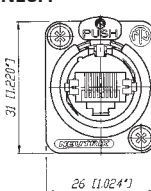
NE8FBH-LED



NE8FDP



NE8FF



Specification		NE8MC* Cable Con.	NE8FA/B* (A + B Series)	NE8FD* (D Series)
<b>Electrical</b>				
Number of contacts		- <sup>1)</sup>	8	8
Rated current per contact	< 1.5 A	- <sup>1)</sup>	●	●
Rated voltage	< 50 V ac	- <sup>1)</sup>	●	●
Contact resistance	< 10 mΩ	- <sup>1)</sup>	●	●
Insulation resistance	> 500 MΩ	- <sup>1)</sup>	●	●
Dielectric strength	> 1'000 V ac rms	- <sup>1)</sup>	●	●
Frequency bandwidth	1 - 100 MHz	- <sup>1)</sup>	●	●
Transmission class acc. TIA / EIA 568B or IEC 11801	CAT 5e	- <sup>1)</sup>	●	● NE8FDH-C5E
	Class D	- <sup>1)</sup>	PCB Versions	PCB Versions
				NE8FDV
<b>Mechanical</b>				
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	- <sup>1)</sup>	NE8*-Y*	NE8*-Y*
Panel thickness	max. 3 mm / 0.12"	-	●	4 mm / 0.16"
<b>Material</b>				
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)	- <sup>1)</sup>	●	●
Contact surface	Au (gal 0.2 μm over Ni plating)	- <sup>1)</sup>	●	●
Locking Element	Ck 67 steel, treated	-	●	●
Bushing	Polyamide (PA 6 15% GR)	●	-	-
Boot	Polyamide (PA 6)	●	-	-
Sealing gasket	EPDM	-	-	SE8FD
<b>Environment</b>				
Operating Temperature	-30 °C to +80 °C	●	●	●
	-20 °C to +60 °C	-	-	SE8FD
Protection class	IP 54	-	-	SE8FD
Flammability	UL94V-0	UL94 HB	●	●
Solderability complies with IEC 68-2-20		-	PCB Version	PCB Version
Mating screw		-	A screw	E screw
Color coding		BSE-* / BSX-*	ACRF-*	DSS-*

<sup>1)</sup>: 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 RJ45 plug. RJ45 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-*	Colored coding rings for A-shape receptacles (Box of 100 pcs.)							
BSE-*	Colored boot for cable connector carrier (Box of 100 pcs.)							
BSX-*	Colored bushing for NE8MC-1 and NE8MC-B-1 cable connectors							
DSS-*	Lettering plate for D series, colored plastic							
NZP1RU	Panel1RU D-shape housing							
SCDP-*	D-Size sealing gaskets, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)							
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated							
	*: 0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Grey, 9 - White							

### Waterproof kit for etherCON D-Series

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



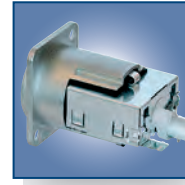
Push Pull locking



IP65 in mated condition



D-shape metal shell



Closed shielding

## CAT6 Patch Cable



NKE6S-\*

## CAT6 Receptacles



NE8FDY-C6

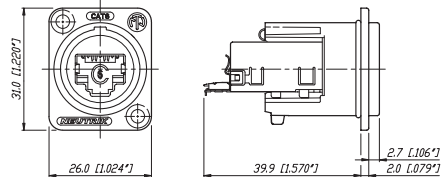
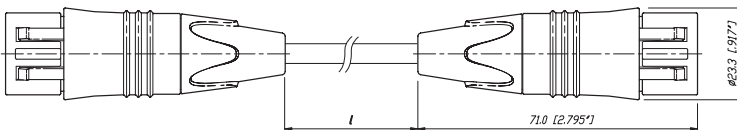


NE8FDY-C6-B

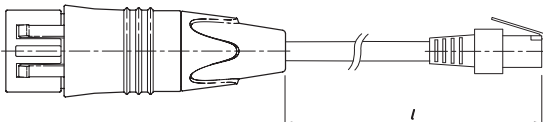
- CAT6 compliant – data rate up to 10 GBit/s
- Dust and water resistant according IP 65 in mated condition
- Push Pull mating design provides secure locking system
- Shielded system – high noise immunity and EMI protection
- IDC contacts offer gas-tight termination
- Ready made patch cables with rugged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

NKE6S-\*

NE8FDY-C6



NKE6S-\*-WOC



## Design Criteria

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

### Features & Benefits:

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

## Technical Data

Electrical			Materials		
	Receptacle	Patch cable		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: 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 97 / 101 / 104
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# U S B A d a p t e r



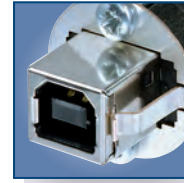
Push Pull locking



USB type B



D-shape metal housing



USB type B

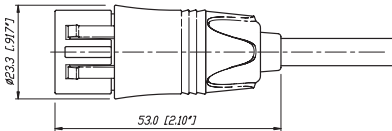
## U S B P a t c h C a b l e



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 (1 m, 3 m and 5 m) with removable rugged diecast cable carrier
- Mates with conventional USB receptacles if cable carrier is removed

### NKUSB



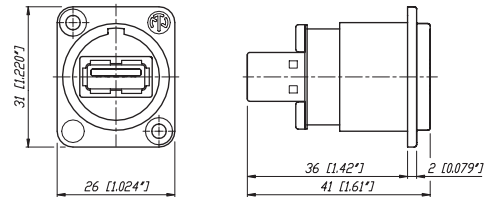
## U S B R e c e p t a c l e



NAUSB-W

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

### NAUSB-W



## Technical Data

### Mechanical and Electrical

Receptacle

Patch Cable

Conform with USB 2.0 Standard

•

•

### Material

Shell Zinc diecast (ZnAl4Cu1)

•

•

Shell plating Nickel or black Chrome

•

Nickel

Insert

PBTP 15% GR

PVC

Contacts Brass (CuZn39Pb3)

•

•

Contact finish

Gold

•

•

### Environmental

Operating temperature -25 °C to +85 °C

•

•

Flammability UL94 V-0

•

•

Protection class

IP 65

•

•

## 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, colored plastic

SCM Plastic sealing cover to protect the Firewire connectors against dust and moisture.

SCDP-\* D-Size sealing gaskets, color coding (\*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)

SCDX Hinged cover seals D-size chassis connectors, IP 42 rated

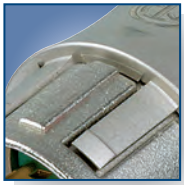
NZP1RU-8 Panel1RU housing with 8 D-shape cutouts

NZP1RU-12 Panel1RU housing with 12 D-shape cutouts

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



# HDMI Adapter



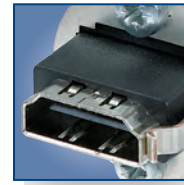
Push Pull locking



HDMI 1.3a



D-shape metal housing



HDMI 1.3a receptacle



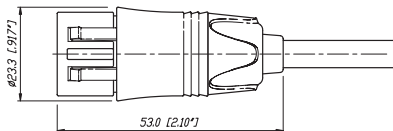
## HDMI Patch Cable



NKHDMI-\*

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

### NKHDMI-\*



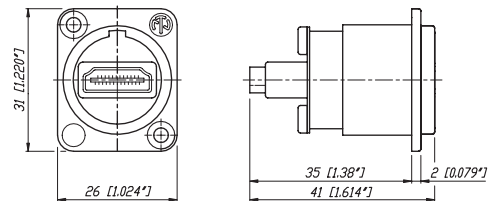
## HDMI Receptacles



NAHDMI-W

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

### NAHDMI-W



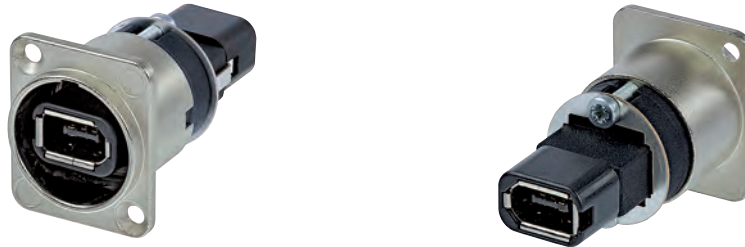


D-shape metal housing



IEE 1394 receptacle

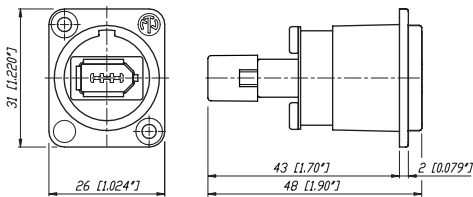
## Firewire Receptacle



NA1394-6-W

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

NA1394-6-W



## Technical Data

### Mechanical and Electrical

	HDMI Receptacle	HDMI Patch Cable	Firewire
Conform with Standards	HDMI 1.3a	HDMI 1.3a	IEEE

### Material

Shell	Zinc diecast (ZnAl4Cu1)	•	•	•
Shellplating	Nickel or black Chrome	•	•	•
Insert	ABS	Nickel	PVC	PBTP 15% GR
Contacts	Brass (CuZn39Pb3)	-	-	-
Contact finish	Gold	•	•	•

### Environmental

Operating temperature	-25 °C to +85 °C	•	•	•
Flammability	UL94 V-0	•	•	•
Protection class	IP 65	•	•	•

## 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, colored plastic
SCM	Plastic sealing cover to protect the Firewire connectors against dust and moisture.
SCDP-*	D-Size sealing gaskets, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
NZP1RU-8	Panel1RU housing with 8 D-shape cutouts
NZP1RU-12	Panel1RU housing with 12 D-shape cutouts

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







# BNC Connectors



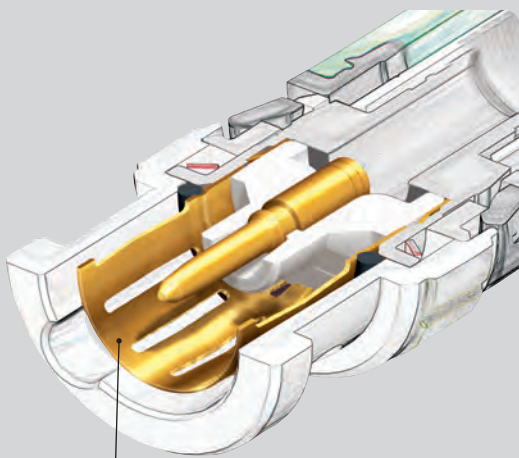
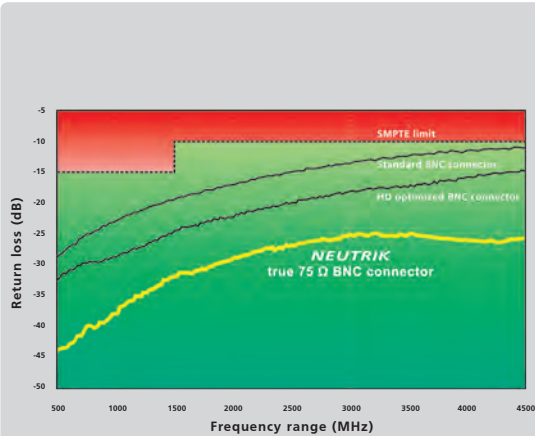
<b>Content</b>	<b>Page</b>
rearTWIST Cable Connectors .....	108
Cable to Connector Guide .....	110
Connector to Cable Guide .....	112
Bulkhead Jacks .....	114
Technical Data .....	115
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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.

## NEUTRIK® 75 Ω BNC Connectors

Neutrik offers a variety of 75 Ω cable and chassis BNC connectors. The 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.



Gold plated ground contact with improved shielding effectiveness optimized for high frequency HDTV signal up to 4.5 GHz.

For further technical information and the Neutrik BNC White Paper please refer to [www.neutrik.com](http://www.neutrik.com).

## True 75 Ω HDTV Connectors

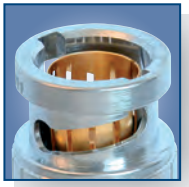
With the introduction of HD signals the impedance of BNC connectors became more important than ever. Every deviate impedance has a negative influence on the "return loss" / "VSWR" (Voltage Standing Wave Ratio) which are important measurements for reflected signals in a transmission line. Especially on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

Neutrik's BNC connectors feature a true 75Ω design that meet the stringent requirements of HDTV and sustain a consistent impedance at high frequencies up to 4.5 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!

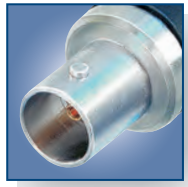
In times of rising frequencies the connector shielding becomes to an important value in order to avoid EMI problems and crosstalking. Neutrik BNC's take this fact into account and has been equipped with an optimized ground contact design for maximum shielding effectiveness.



Bayonet locking



Gold plated contacts



Female cable jack

## rearTWIST (Standard, Large & Tiny) and Cable Jacks



NBTC75BLI4



NBNC75BLP7

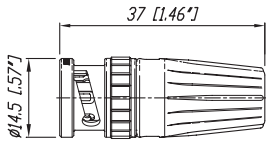


NBNB75GLP9



NBTB75CFI4

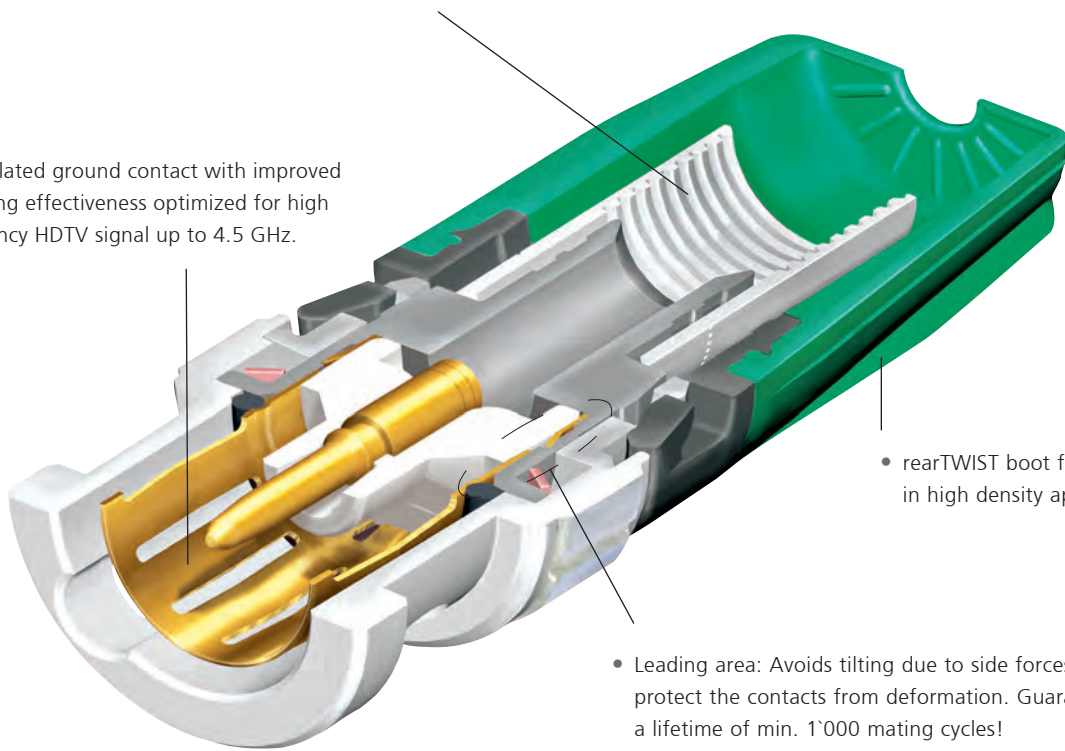
- “rearTWIST Principle” locking/unlocking using the easily accessible soft touch boot (Patent DE 100 48507)
- Ideal for recessed bulkheads where access to the “head” of the connector might be an issue. These connectors turn from the back and not the front.
- True 75  $\Omega$  design meets the stringent 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 colors, 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 4.5 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**

	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm
<b>Belden</b>					
1277R, 1278R, 1279R			NBTC75BNN5		4.53
1406B, 1407B, 1417B			NBTC75BVV5		5.00
1426A, 1505A (ANH)	NBNC75BLP9			NBNB75GLP9	6.47
1505F	NBNC75BJP9				6.47
1506A	NBNC75BIJ9				5.41
1520A, 1521A, 1522A, 179DT		NBTC75BFI4	NBTB75CFI4		4.06
1694A (ANH)	NBNC75BTU11				7.36
1694F	NBNC75BRU11				8.23
1695A	NBNC75BQP11				6.47
1855A	NBNC75BDD6				4.53
1865A		NBTC75BXX6			5.00
1855ENH	NBNC75BFG7				5.00
7731A (ANH)	NBLC75BVZ17				9.73
8218		NBTC75BXX5			5.00
8241	NBNC75BLP7				6.47
8241F	NBNC75BLP9			NBNB75GLP9	6.47
8281	NBNC75BXY9				8.23
8281F	NBNC75BYY9				8.23
9221		NBTC75BLI4			4.06
1764A	NBNC75BZV14				8.23
<b>CANARE</b>					
L-3CFB	NBNC75BHK7				5.41
L-4CFB	NBNC75BLP9			NBNB75GLP9	6.47
L-5CFB	NBNC75BYY11				8.23
LV-61S	NBNC75BLP7				6.47
LV-77S	NBNC75BYY9				8.23
V(3-5)-3C	NBNC75BGG7				5.00
V(3-5)-4CFB	NBNC75BJJ9				5.41
V(3-5)-5C	NBNC75BRS9				7.01
V(3-5)-5CFB	NBNC75BWS11				7.01
L-1.5C2VS		NBTC75BLI4			4.06
<b>COMMSCOPE</b>					
2065V	NBNC75BIJ9				5.41
2279V	NBNC75BQP11				6.47
5563	NBNC75BLP7				6.47
5565	NBNC75BLP9			NBNB75GLP9	6.47
5765	NBNC75BTU11				7.36
7536 (03-05)		NBTC75BXX6			5.00
7538	NBNC75BDD6				4.53
<b>CANFORD</b>					
SDV-M	NBTB75CNN5				4.53
SDV, SDV-X, SDM	NBNC75BFG7				5.00
SDV-L, SDV-F	NBNC75BWS11				7.01
SDV-HD	NBLC75BVZ17				9.73
SDV-F-HD	NBNC75BWU13				7.36
VCS (BBC PSF1/3)	NBNC75BLS7				7.01
<b>DRAKA MULTIMEDIA CABLE</b>					
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	NBNC75BFG7				5.00
0.6 / 3.7, 0.6L / 3.7	NBNC75BLP7				6.47
0.6 / 3.7 Dz	NBNC75BLS7				7.01
0.8 / 3.7 AF, 755-801(803, 804)	NBNC75BLP9			NBNB75GLP9	6.47
0.8 / 4.9 Dz	NBNC75BXY9				8.23
1.0 / 4.8 AF, 755-901/5	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

	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm
<b>SUHNER</b>					
G02233					4.06
G04233D	NBNC75BLS7		NBTC75BFI4		7.01
S02223			NBTC75BLI4		4.06
S04233, S04263	NBNC75BLP9			NBNB75GLP9	6.47
S05133-07	NBNC75BTU11				7.36
S05163-02	NBNC75BTU11				7.36
<b>OTHERS</b>					
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	NBNC75BUU11			NBNB75GUU11	7.36
BBC PSF 1/3*	NBNC75BLS7				7.01
BESCA France - Bengat			NBTC75BNS4		4.53
CAE MC75			NBTC75BLI5	NBTB75CLI5	4.06
CAE MC75.39			NBTC75BVX6		5.00
CAE KX6A	NBNC75BLP7				6.47
CAE VCB75	NBNC75BNP9				6.47
CAE VCB 100	NBNC75BXU13				7.36
Cordial CVI 3-7	NBNC75BFG7				4.53
Cordial CVI 06-28	NBNC75BFG7				5.00
Cordial CVI (CVM) 06-37	NBNC75BLP7				6.47
COVID CVD 1300-1500			NBTC75BLI5	NBTB75CLI5	4.06
Eupen 705 CRT 5V-HS	NBNC75BTS11				7.36
Extron BNC-5HR			NBTC75BNN5	NBTB75CNN5	4.53
Extron BNC-5RC	NBNC75BFG7				5.00
Fuzion SD-1	NBNC75BFG7				5.00
Fuzion SD-1-LL	NBNC75BWS11				7.01
GEPCO VPM2000	NBNC75BLP9			NBNB75GLP9	6.47
GEPCO VSD2001	NBNC75BTU11				7.36
Helix 734	NBNC75BNP9				6.47
Helix 735			NBTC75BSS5		4.53
Hirschmann KOKA 712Cu	NBNC75BTS9				6.47
Kansai 3C-5S	NBNC75BFH6				5.00
KLOTZ V06/28, VMXx75Y	NBNC75BFG7				5.00
KLOTZ V06/37	NBNC75BLP7				6.47
KLOTZ V10/48	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 02Y(S)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
Proel HPC 805	NBNC75BLP7				6.47
Proel HPC 810	NBNC75BLP9				6.47
Proel HPC 820	NBNC75BFH6				5.00
RG11	NBLC75BVZ17				9.73
RG59B/U	NBNC75BLP7				6.47
RG179B/U			NBTC75BLI4		4.06
SOMMER 600-0051 (M/L/S)	NBNC75BLP7				6.47
SOMMER 600-0054 (M/L/S)	NBNC75BLP7				6.47
SOMMER 600-0101M	NBNC75BFG7				5.00
SOMMER 600-0104M	NBNC75BFG7				5.00
SOMMER 600-162(F)	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	NBNC75BLP9			NBNB75GLP9	6.47
SOMMER 600-0751			NBTC75BVX6		5.00
Wisi MK 99A	NBNC75BWS12				7.01
ZNK CM14B			NBTC75BFI4	NBTB75CFI4	4.06
Van Damme 278 975	NBNC75BNP9				6.47
Van Damme 278 775 / 268 475	NBNC75BXU13				7.36
Van Damme 278 475	NBLC75BVZ17				9.73
Van Damme 278 775			NBTC75BSS5		4.53
Van Damme 268 175	NBNC75BTU11				7.36
Van Damme 268 275 / 268 306	NBNC75BLP9				6.47
Van Damme 268 408			NBTC75BFI4		4.06

\* Registered trademark of BBC

	Pin crimp mm (square)	Hex crimp mm	Inner Conductor	Insulator	Cable O.D.
<b>rearTWIST</b>					
NBLC75BVZ17	1.75 (Hex crimp)	9.73	< 1.7	< 8.0	< 10.4
NBLC75BSX14	1.75 (Hex crimp)	9.73	< 1.4	< 6.6	< 9.5
NBNC75BDD6	1.6	4.53	< 0.6	< 2.8	< 4.3
NBNC75BFG7	1.6	5.00	< 0.7	< 3.1	< 4.7
NBNC75BFH6	1.6	5.00	< 0.6	< 3.1	< 4.9
NBNC75BGG7	1.6	5.00	< 0.7	< 3.2	< 4.7
NBNC75BHK7	1.6 (or 1.75 Hex)	5.41	< 0.7	< 3.3	< 5.6
NBNC75BIJ9	1.6	5.41	< 0.9	< 3.6	< 5.3
NBNC75BJJ9	1.6	5.41	< 0.9	< 3.8	< 5.3
NBNC75BJP9	1.6	6.47	< 0.9	< 3.8	< 6.3
NBNC75BLP7	1.6	6.47	< 0.7	< 3.8	< 6.3
NBNC75BLP9	1.6	6.47	< 0.9	< 3.8	< 6.3
NBNC75BLS7	1.6	7.01	< 0.7	< 3.8	< 6.9
NBNC75BNP9	1.6	6.47	< 0.9	< 4.1	< 6.3
NBNC75BQP11	1.6	6.47	< 1.1	< 4.5	< 6.3
NBNC75BRS9	1.6	7.01	< 0.9	< 4.8	< 6.9
NBNC75BTS9	1.6	7.01	< 0.9	< 4.7	< 6.9
NBNC75BTS11	1.6	7.01	< 1.1	< 4.7	< 6.9
NBNC75BTU11	1.6	7.36	< 1.1	< 4.7	< 7.3
NBNC75BUU11	1.6	7.36	< 1.1	< 4.9	< 7.3
NBNC75BRU11	1.6	8.23	< 1.1	< 4.7	< 8.0
NBNC75BWS11	1.6	7.01	< 1.1	< 5.1	< 6.9
NBNC75BWS12	1.6	7.01	< 1.2	< 5.1	< 6.9
NBNC75BWU13	1.6	7.36	< 1.4	< 5.1	< 7.3
NBNC75BXU13	1.6	7.36	< 1.4	< 5.3	< 7.3
NBNC75BXY9	1.6	8.23	< 0.9	< 5.3	< 8.0
NBNC75BYY9	1.6	8.23	< 0.9	< 5.2	< 8.0
NBNC75BYY11	1.6	8.23	< 1.1	< 5.2	< 8.0
NBNC75BZV14	1.6 (or 1.75 Hex)	8.23	< 1.1	< 5.2	< 8.0
<b>rearTWIST TINY</b>					
NBTC75BFI4	1.6	4.06	< 0.4	< 1.6	< 2.9
NBTC75BLI4	1.6	4.06	< 0.4	< 1.8	< 2.9
NBTC75BLI5	1.6	4.06	< 0.5	< 1.8	< 2.9
NBTC75BNN5	1.6	4.53	< 0.5	< 2.0	< 3.1
NBTC75BNS4	1.6	4.53	< 0.4	< 2.0	< 3.5
NBTC75BSS5	1.6	4.53	< 0.5	< 2.3	< 3.4
NBTC75BVV5	1.6	5.00	< 0.5	< 2.5	< 3.8
NBTC75BVX6	1.6	5.00	< 0.6	< 2.5	< 4.0
NBTC75BXX5	1.6	5.00	< 0.5	< 2.6	< 4.0
NBTC75BXX6	1.6	5.00	< 0.6	< 2.6	< 4.0
<b>CABLE JACKS (TINY &amp; PANEL VERSION)</b>					
NBTB75CFI4	1.6	4.06	< 0.4	< 1.6	< 2.9
NBTB75CNN5	1.6	4.53	< 0.5	< 2.0	< 3.1
NBTB75CLI5	1.6	4.06	< 0.5	< 1.8	< 2.9
NBNB75GLP9	1.6	6.47	< 0.9	< 3.8	< 6.3
NBNB75GUU11	1.6	7.36	< 1.1	< 4.9	< 7.3
NBNB75ILP9	1.6	6.47	< 0.9	< 3.8	< 6.3
NBNB75IUU11	1.6	7.36	< 1.1	< 4.9	< 7.3



## Cable Type

Belden 7731A (ANH); Canford SDV-HD; Draka 1.6/7.3AF; KLOTZ V16/72; RG11; Nexans HF 75 1.6/7.2 02Y(ST)C(ST)H; Van Damme 278 475  
 Draka 1.4 / 6.6 AF  
 Belden 1855A; CommScope 7538  
 Argosy 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; Fuzion SD-1  
 Kansai 3C-5S; Proel HPC 820  
 Canare V(3-5)-3C  
 Canare L-3CFB  
 Belden 1506A; CommScope 2065V  
 Canare V(3-5)-4CFB  
 Belden 1505F  
 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; Proel HPC 805  
 Argosy 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; Proel HPC 810  
 Sommer 600-0451, 600-162(F); Van Damme 278 275 / 268 306  
 BBC PSF 1/3; Canford VCS; Draka 0.6/3.7 Dz, 755-801 (803, 804); Suhner G04233D (PTT 6010)  
 CAE VCB75; Helix 734; Van Damme 278 975  
 Belden 1695A; CommScope 2279V  
 Canare V(3-5)-5C  
 Hirschmann KOKA 712Cu  
 Eupen 705 CRT 5V-HS  
 Belden 1694A (ANH); CommScope 5765; Gepco VSD2001; Suhner S05163-02, 05133-07; Van Damme 278 175  
 Argosy Image 1000; Draka 1.0/4.8 AF, 755-901/5; Klotz V10/48  
 Belden 1694F  
 Canare V(3-5)-5CFB; Canford SDV-L, SDV-F; Fuzion SD-1-LL  
 Wisi MK 99A  
 Canford SDV-F-HD; Draka 1.2L/4.8Dz, 1.2L/4.95AF  
 CAE VCB 100; Van Damme 278 175 / 268 475  
 Belden 8281; Draka 0.8/4.9Dz  
 Belden 8281F; Canare LV-77S  
 Canare L-5CFB  
 Belden 1794A

Belden 1520A, 1521A, 1522A, 179DT; Draka 0.31/1.45 AF, 753-1304(2), 755-1302; Suhner G02233, ZNK CM14B; Van Damme 278 408  
 Canare L-1.5C2VS; Suhner S02223; Kroschu (341 270, 341 280); RG 179 B/U; Sommer 600-025-03 (05)  
 CAE MC75; Procom; Sommer 600-0701, 600-20-03 (05), 600-025-03 (05)  
 Belden 1277R, 1278R, 1279R; Canford SDV-M; Draka 0.41/1.9AF, 753-1104, 755-1103; Extron BNC-5 HR(P) (Bulk), BNC-5RC  
 BESSA France - Bengale  
 AT&T 735; CommTech RGBHV; Van Damme 278 775  
 Belden 1406B, 1407B, 1417B  
 CAE NC75.39; Draka 755-1001 (0.51/2.3Dz), 757-1001; Sommer 600-0751; VADN 7243  
 Belden 8218  
 Belden 1865A; CommScope 7536

Belden 1520A, 1521A, 1522A, 179DT; Draka 0.31/1.45 AF, 753-1304(2), 755-1302; Suhner G02233; ZNK CM14B  
 Canford SDV-M; Draka 0.41/1.9 AF, 753-1104, 755-1101; 755-1103; Extron BNC 5 HR(P) (Bulk)  
 CAE MC75; Sommer 600-0701, 600-20-03 (05), 600-025-03 (05)  
 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  
 Argosy Image 1000; Draka 1.0/4.8AF, 755-901/5; KLOTZ V10/48  
 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  
 Argosy Image 1000; Draka 1.0/4.8AF, 755-901/5; KLOTZ V10/48



D-shape metal housing



Gold plated center pin

## BNC Chassis & Cable Jacks Panel Version



Bulkhead Jacks - NBB75FG



NBB75DFG



NBB75DFGB



Cable jacks Panel Version - NBB75SI

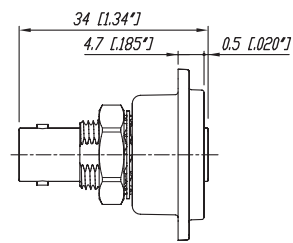
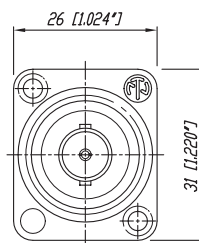
- True 75  $\Omega$  design meets the stringent HDTV / DVD requirements
- Isolated or grounded versions
- "D" shaped housing (provides flush mounting and protection of the jacks from damage) or single feed through mountings
- Gold plated center contact



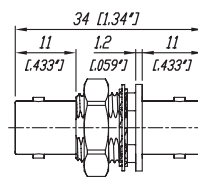
### New cage type contact on BNC feed through connectors

- Closed contact design - extremely rugged
- Gold plated cage type clip - best possible shielding and lowest contact resistance

### NBB75DFG



### NBB75FI



## 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 isolation washers	NBB75SI	
Coupler, feed through	NBB75FA	

Specifications	rearTWIST & rearTWIST Large & Cable Jack Panel	rearTWIST Tiny & Cable Jack Tiny	Bulkheads & Coupler
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### Electrical

Impedance	75 Ω	●	●	●
Rated voltage	500 V ac rms	●	250 V ac rms	●
Insulation resistance	> 5 GΩ	●	●	●
Dielectric withstanding voltage	1'500 V ac rms	●	750 V ac rms	●
VSWR / Return Loss	≤ 1.050 / > 32 dB up to 1 GHz	●	≤ 1.10 / > 26 dB up to 1 GHz	≤ 1.03 / > 37 dB up to 1 GHz
	≤ 1.065 / > 30 dB up to 2 GHz	●	≤ 1.14 / > 24 dB up to 2 GHz	≤ 1.05 / > 32 dB up to 2 GHz
	≤ 1.100 / > 26 dB up to 3 GHz	●	≤ 1.22 / > 20 dB up to 3 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	●	●	N / A
Cable O.D. range	mm	4.0 - 7.7	2.5 - 3.8	N / A
- Rear Twist Large		10.3	-	-
Center contact retention	> 30 N	●	●	-
Engagement force	< 25 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 platin		N / A	N / A	NBB75D*
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	●

### Environmental

Temperature range	-30 °C to +85 °C	●	●	●
Solderability	Complies with IEC 68-2-20	●	●	N / A
Contact crimpability	Complies with IEC 60803 and IEC 60352-2	●	●	N / A

### Center Contact

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
1.4	●	●	5

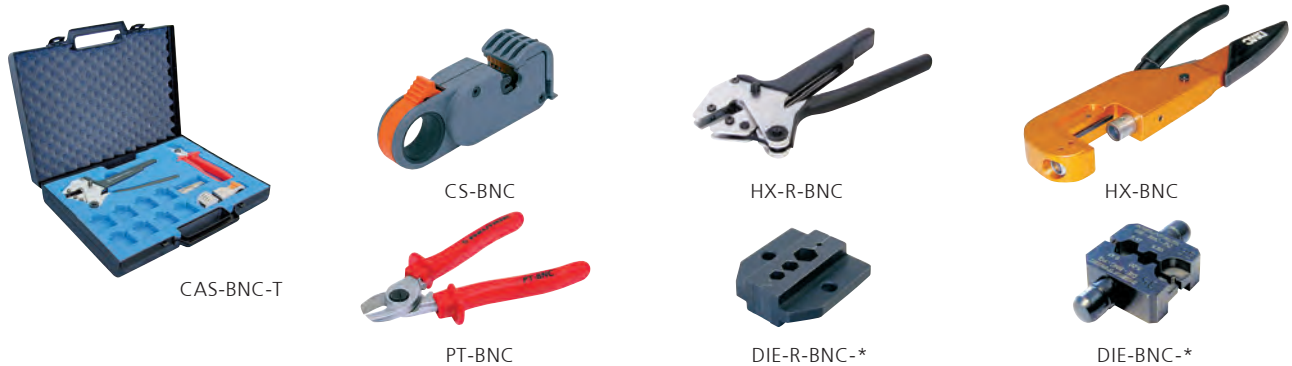
## Colour Coded Accessories and Seals



BST-BNC-*	Standard boot for the rearTWIST BNCs in black, 9 different colors available
DSS-*	Lettering plate for D Shape bulkheads.
SCF	Rubber sealing cover to protect the connector against dust and moisture
SCDP-*	D-Size sealing gaskets, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
NZP1RU-8	Panel 1RU housing for 8 D-shape cutouts
NZP1RU-12	Panel 1RU housing for 12 D-shape cutouts

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

## Assembly Tools



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
CS-BNC	Coax cable stripper for cable O.D. 2.5 – 8 mm
DIE-BNC-*	Crimp tool die for pin and shield for HX-BNC
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)
HX-R-BNC	Crimp tool, frame
PT-BNC	BNC pliers tool

### Crimp die assignment for HX-BNC

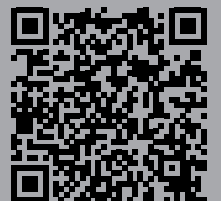
### Crimp die assignment for HX-R-BNC

Crimp die	Hex crimp mm		Hex crimp inch		Center pin mm (square crimp)
	A	B	A	B	
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	Hex crimp mm			Hex crimp inch			Center pin mm (square crimp)
	A	B	C	A	B	C	
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)
DIE-R-BNC-UG	7.36	5.00	-	0.290	0.197	-	1.6



# Circular Connectors



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.



## 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.

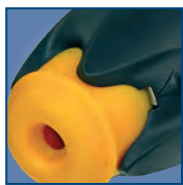
Further features are:

- 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.



Ergonomic quick lock



Bushing with secure key and sealing



Overmolded ready made cable



Screw terminals



1/4" flat tabs



ENEC certified

powerCON TRUE1 – Lockable 16 A single phase connector

NEW



NAC3FX-W



NAC3MX-W



NAC3FPX



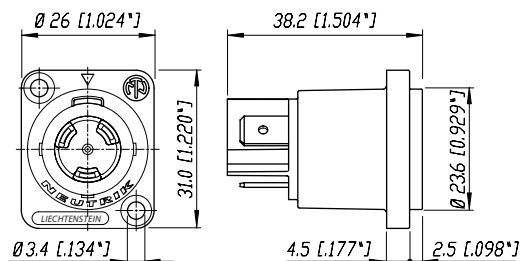
NAC3MPX



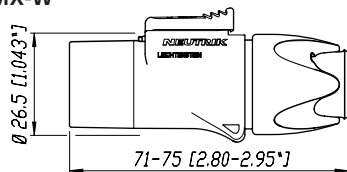
NAC3PX

- True mains connector with breaking capacity (CBC)
- Lockable 16 / 20 A single phase connector
- Complete system with inlet and outlet connectors
- Unique duplex chassis connector – combines inlet and outlet coupler
- IP 65 – water resistant ready-made cord sets
- ENEC certified according to IEC 60320
- Easy and reliable locking system
- UL recognized components

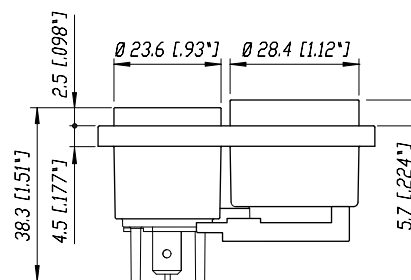
NAC3MPX



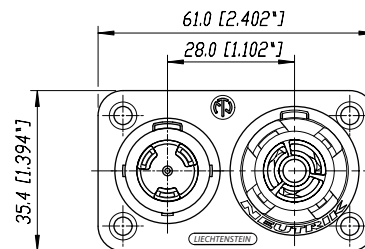
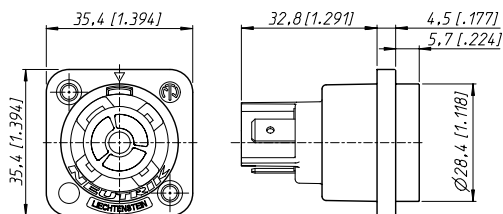
NAC3MX-W



NAC3PX



NAC3FPX





## Ordering Information

### Cable Connector

NAC3FX-W	Mains cable connector, female CBC, screw terminals, IP 65
NAC3MX-W	Mains cable connector, male CBC, screw terminals, IP 65

### Chassis Connector

NAC3FPX	Mains chassis connector female CBC, 1/4" flat tab terminals, power outlet
NAC3FPX-ST	Mains chassis connector female CBC, screw terminals, power outlet
NAC3MPX	Mains chassis connector male CBC, 1/4" flat tab terminals, power inlet
NAC3PX	Mains chassis duplex, 1/4" flat tab terminals

## Accessories



SCDP-\*



SCNAC-PX



SCNAC-FPX

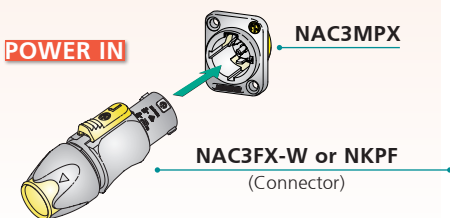


SCNAC-MPX

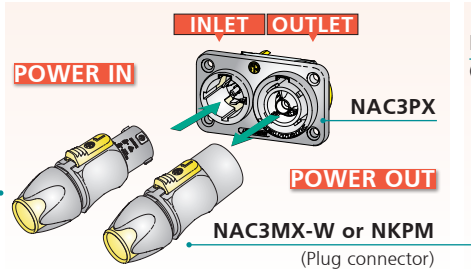
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCNAC-PX	Sealing cover duplex IP 65
SCNAC-FPX	Sealing cover for NAC3FPX
SCNAC-MPX	Sealing cover for NAC3MPX

## Connector Assignment

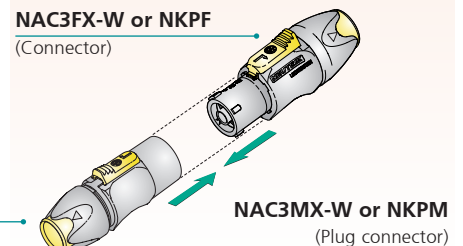
### APPLIANCE INLET



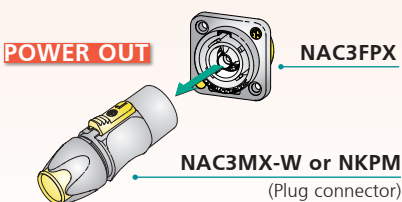
### APPLIANCE COMBINATION



### CABLE EXTENTION



### APPLIANCE OUTLET



## Specification

### READY-MADE POWER CORDS

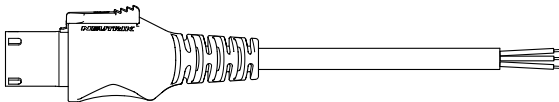
Ready-made overmolded power cord in protection class IP 65. The cable utilizes standard duty cord with 3 conductors with cross section 1.5 mm<sup>2</sup> or 12 AWG.

Cables are equipped with Neutrik TRUE1 powerCON NAC3FXW and NAC3MXW for extension cables or with an

open end for termination of local connectors for "power in" supply cables. Overmolded local connectors on request. Cables are available in different lengths.

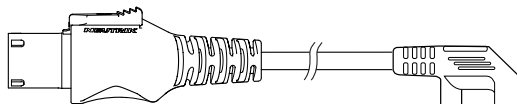
## International Cord

### International Power Cord 16 A / 250 VAC



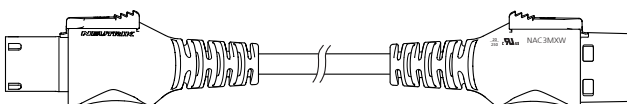
Current rating	16 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	H07RN-F3G1.5 / black / 9.6 mm
Conductor size	3 x 1.5 mm <sup>2</sup>
Standard length	2 m, 3 m, 5 m
Plug / end termination	Neutrik NAC3FXW / stripped open end
Approvals	ENEC, VDE
Part Number e.g.	NKPF-NC-A-3

### International Power Cord 16 A / 250 VAC



Current rating	16 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	H07RN-F3G1.5 / black / 9.6 mm
Conductor size	3 x 1.5 mm <sup>2</sup>
Standard length	2 m, 3 m, 5 m
Plug / end termination	Neutrik NAC3FXW / SCHUKO RA
Approvals	ENEC, VDE
Part Number e.g.	NKPF-SR-A-3

### International Extension Cord 16 A / 250 VAC



Current rating	16 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	H07RN-F3G1.5 / black / 9.6 mm
Conductor size	3 x 1.5 mm <sup>2</sup>
Standard length	0.5 m, 1 m, 1.5 m
Plug / end termination	Neutrik NAC3FXW / Neutrik NAC3MXW
Approvals	ENEC, VDE
Part Number e.g.	NKPF-M-A-0.5

Cable Part Number Breakdown

N K P F - X - Y - 3

Neutrik Power Cord

F ..... NAC3FXW  
M ..... NAC3MXW

TERMINATION 2. END

M ..... NAC3MXW  
NC ..... Stripped open end  
S ..... Schuko Straight  
SR ..... Schuko Right Angle  
N1 ..... Nema 5-20

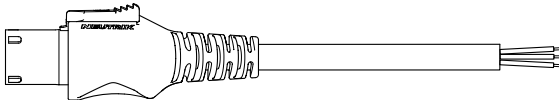
LENGTH in m

CABLE TYPE

A ..... H07RN-F3G1.5  
B ..... H05VV-F3G1.5  
C ..... SJTOW 12AWG  
D ..... SJ00W 12AWG

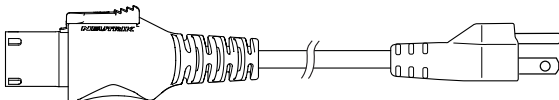
US Cord

US Power Cord 20 A / 250 VAC



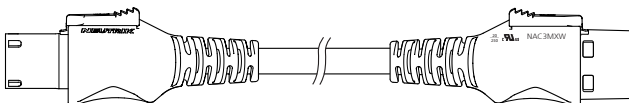
Current rating	20 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	SJTOW / black / 11.3 mm
Conductor size	3 x 12 AWG
Standard length	2 m, 3 m, 5 m
Plug / end termination	Neutrik NAC3FXW / stripped open end
Approvals	UL, cUL
Part Number e.g.	NKPF-NC-C-5

US Power Cord 20 A / 250 VAC



Current rating	20 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	SJTOW / black / 11.3 mm
Conductor size	3 x 12 AWG
Standard length	2 m, 3 m, 5 m
Plug / end termination	Neutrik NAC3FXW / NEMA 5/15
Approvals	UL, cUL
Part Number e.g.	NKPF-N1-C-3

US Extension Cord 20 A / 250 VAC



Current rating	20 A
Voltage rating	250 VAC
Cable type / color / Nom. O.D.	SJTOW / black / 11.3 mm
Conductor size	3 x 12 AWG
Standard length	0.5 m, 1 m, 1.5 m
Plug / end termination	Neutrik NAC3FXW / Neutrik NAC3MXW
Approvals	UL, cUL
Part Number e.g.	NKPF-M-C-1



Quick lock



Neutrik hologram



3/16" flat tabs



Locking area on chassis connector



powerCON – Locking 3 Pole Power Connectors



NAC3FCA



NAC3MPA-1



NAC3FCB



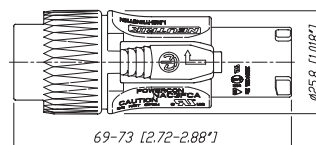
NAC3MPB-1



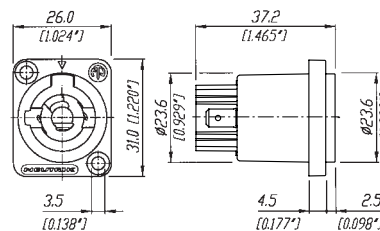
NAC3MM-1

- Lockable 3 pole equipment (AC) connector with contacts for line, neutral and pre-mating safety ground
- High current capacity, rated at 20 A / 250 V 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)

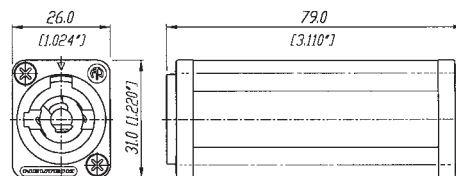
NAC3FCA(B)



NAC3MPA(B)-1



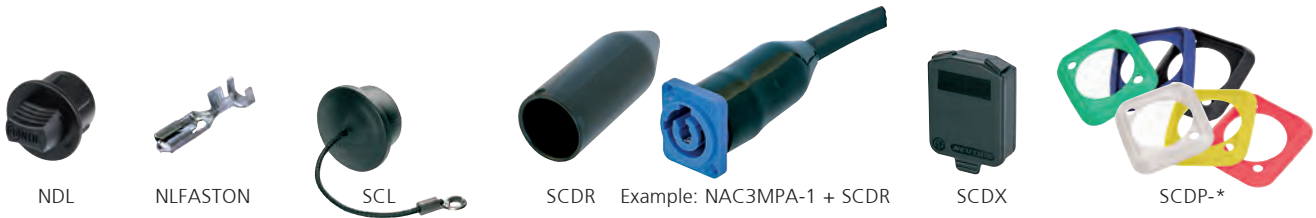
NAC3MM-1



## Ordering Information

NAC3FCA	Cable connector, quick lock with securing lever, A-type for power inlet, screw terminals
NAC3MPA-1	Air tight chassis connector, A-type for power inlet, flat tab terminals, blue
NAC3MPA-1-WOT	Chassis connector, power-out, 3/16" flat tab terminals, blue, without insulation divider
NAC3FCB	Cable connector, quick lock with securing lever, B-type for power outlet, screw terminals
NAC3MPB-1	Air tight chassis connector, B-type for power outlet, flat tab terminals, grey
NAC3MPB-1-WOT	Chassis connector, power-out, 3/16" flat tab terminals, grey, without insulation divider
NAC3MM-1	Coupler for linking cables (couples NAC3FCA to NAC3FCB)

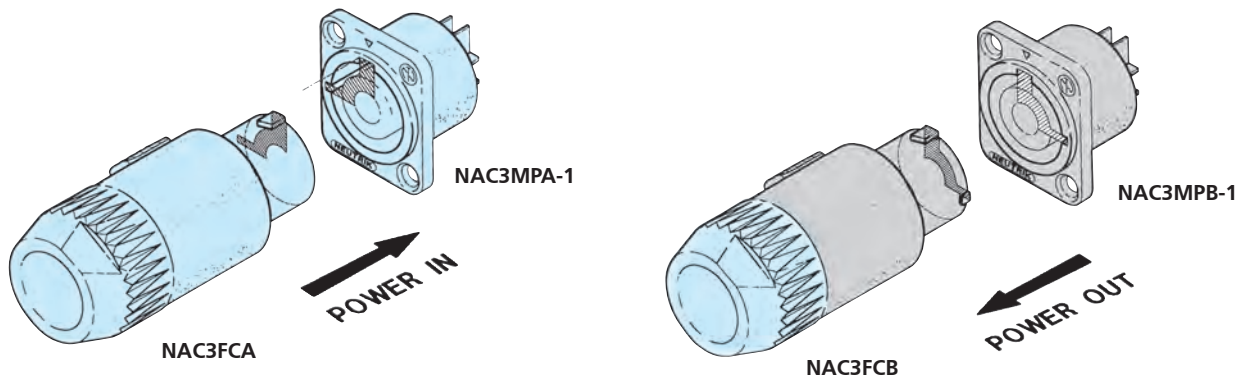
## Accessories



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, IP 42 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 A Connectors



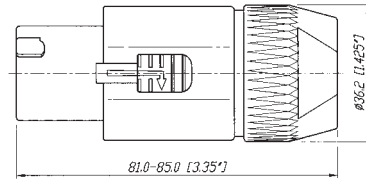
NAC3FC-HC



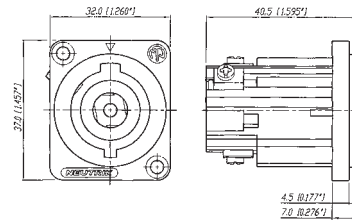
NAC3MP-HC

- 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 A 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 mm<sup>2</sup> (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

Specification		powerCON TRUE1	powerCON Series	32 A powerCON Series
<b>Electrical</b>				
Number of contacts:	2 + PE	●	●	●
Rated current per contact:		20 A rms <sup>1)</sup>	20 A rms	32 A rms
Rated voltage:	250 V ac	●	●	●
Dielectric strength:	4 kV dc	●	●	●
Contact resistance:	≤ 3 mΩ	●	●	●
Insulation resistance after damp heat test (IEC 68-2-30):	> 0.1 GΩ	●	●	●
<b>Mechanical</b>				
Retention method:	Quick lock	●	●	●
Cable O.D. range:		6 – 12 mm	6 – 15 mm	8 – 20 mm
Wiring:	Cable: screw type terminals	●	●	●
		2.5 mm <sup>2</sup> / 12 AWG	2.5 mm <sup>2</sup> / 14 AWG	2.5–6 mm <sup>2</sup> / 14-10 AWG
	or soldering	●	●	●
	Chassis: flat tabs for Faston (4.8 x 0.5 mm) (6.35 mm x 0.8 mm)	-	●	●
	or soldering	●	●	●
Solderability complies with IEC 68-2-20:		●	●	-
<b>Material</b>				
Housing cable connector:		PA 6 30% GR	PA 6 30% GR	PA 6 30% GR
Housing receptacle:		PA 6.6 30% GR	PA 6.6 30% GR	PA 6.6 25% GR
Insert:		PA 6.6 30% GR	PA 6 30% GR	PA 6.6 25% GR
Contacts:	Female:	CuSn0.2	CuZn39Pb3	CuZn39Pb3
	Male:	CuNi1Si0.2	CuNi1Si0.2	CuSn0.2
Contact surface:	2 μm Ag plated	4 μm / 2 μm Ag plated	4 μm Ag	
Chuck POM:		●	●	●
<b>Environmental</b>				
Flammability:	UL 94 HB	-	●	● plug housing
	UL 94 V-0	●	●*	●*
Temperature range:	-30 °C to +80 °C	●	●	●
Protection class (mated):		IP 65	IP 20	IP 2X unmated
Safety Requirements EN / IEC61984:		-	●	●
IEC 60320:		●	-	-
<sup>1)</sup> : Appliance coupler acc. IEC 60320 limited to 16 A ac * : Receptacle FASTON® is a trademark of AMP Inc.				



Connector locking



PCB receptacle



Panel mount receptacle

**nanoCON – 3 Pole Subminiature Connectors**



NSC3F



NP3F-H



NP3M-V



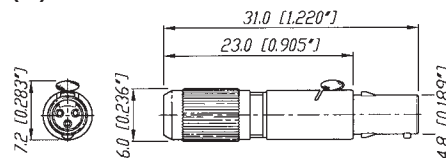
NR3M-S



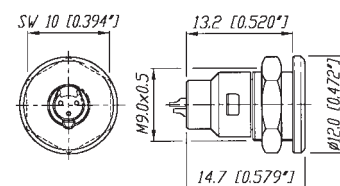
NR3F-S

- 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

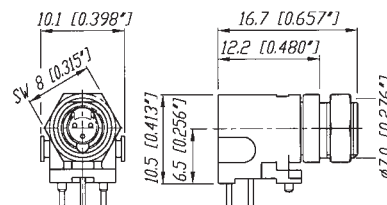
**NSC3F(M)**



**NR3F(M)-S**



**NP3F(M)-H**



**M 1:1**

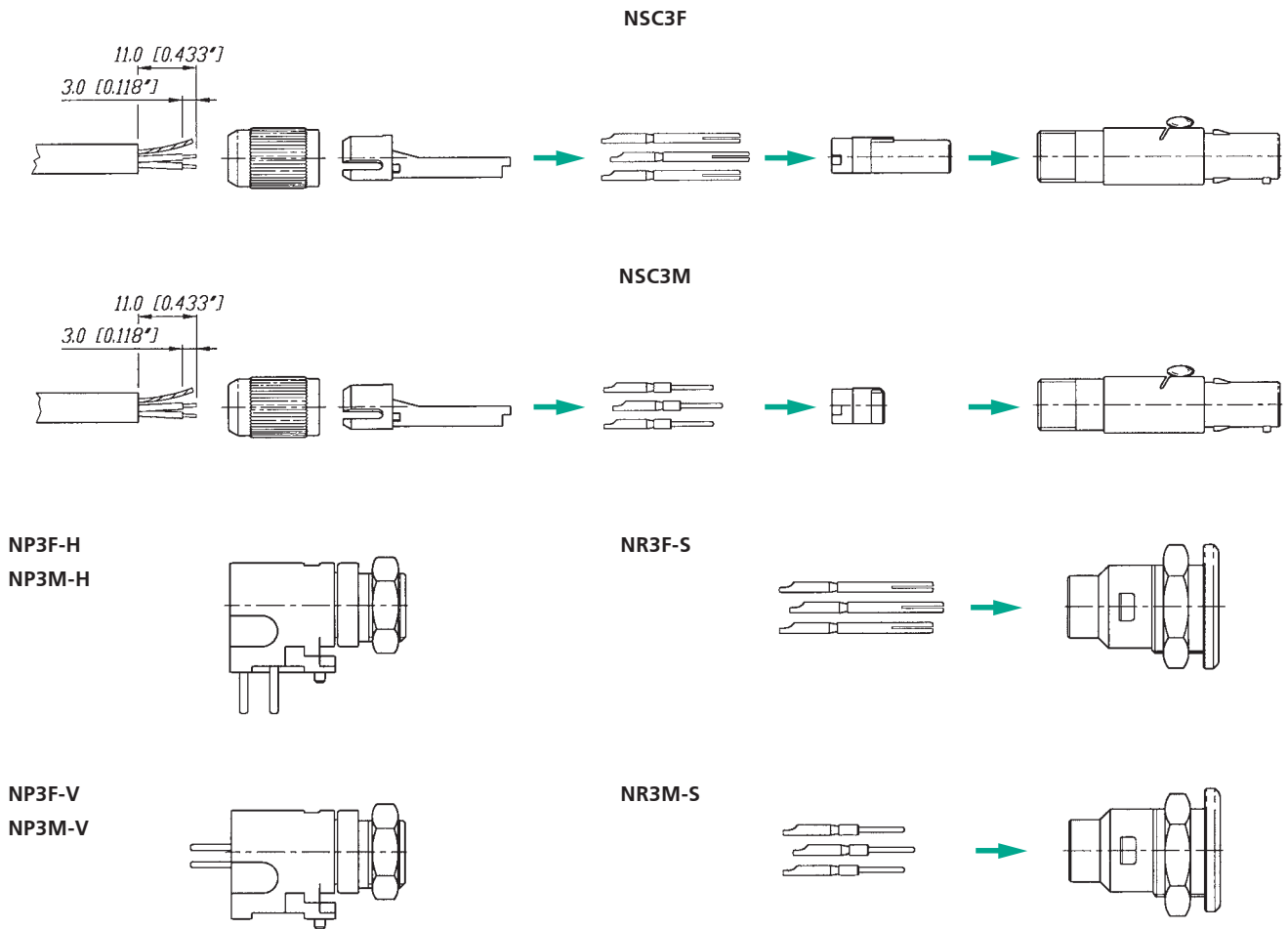




**Ordering Information**

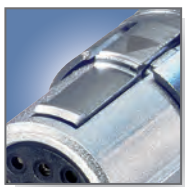
Female		Male	
NSC3F	Cable connector, chuck principle, solder contacts	NSC3M	Cable connector, chuck principle, solder contacts
NR3F-S	Chassis connector panel mount, solder contacts	NR3M-S	Chassis connector panel mount, solder contacts
NP3F-H	Chassis connector horizontal PCB mount	NP3M-H	Chassis connector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

**Ordering Information for modular nanoCON system**



**Contact Arrangement**





Push Pull locking



Gold solder contacts



Horizontal PCB mount

## miniCON – 12 Pole Miniature Connectors



MSCM12



MMC\* (modular system)



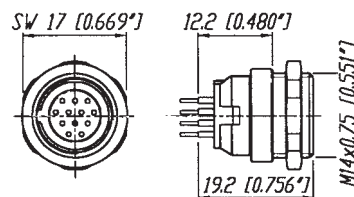
MRF12



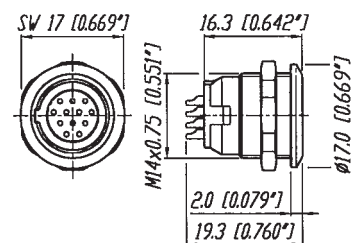
MRF12-H

- 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)

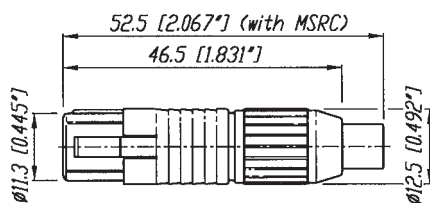
### MPF(M)12-V



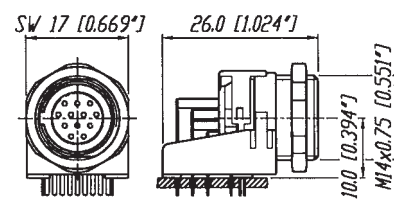
### MRF(M)12



### MSCF(M)12 (+MSRC)



### MPF(M)12-H

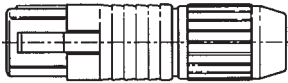


## Ordering Information for complete miniCON set

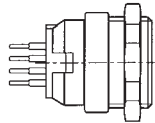
Complete set (consisting of housing, insert, 12 contacts and chuck for cable connector)

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

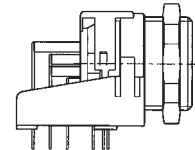
MSCF(M)12



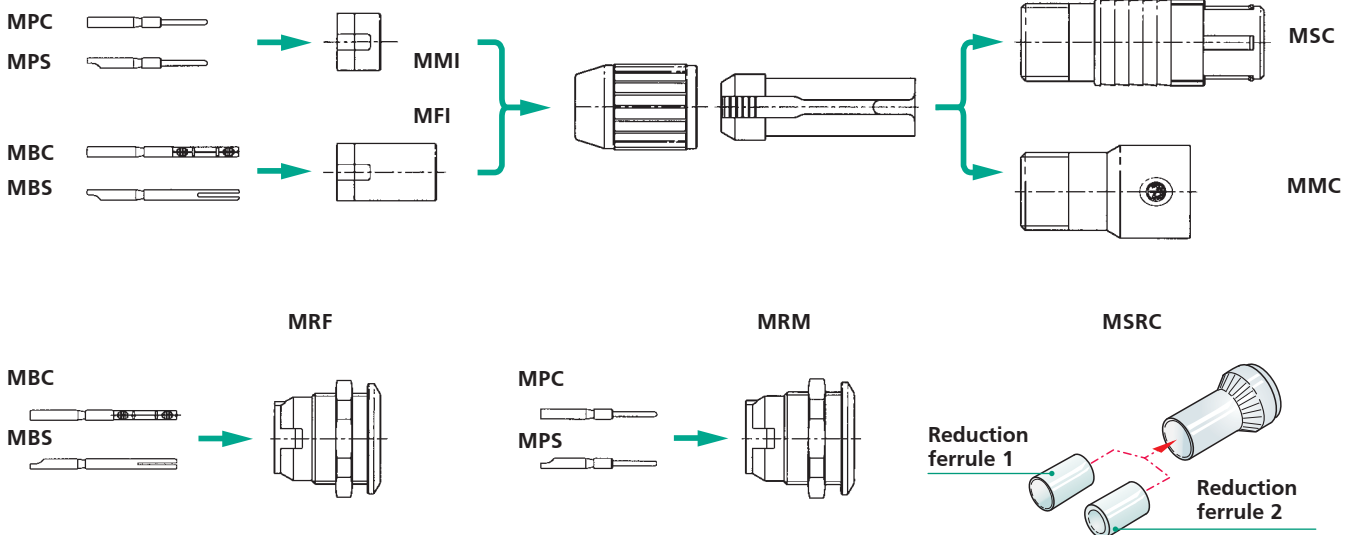
MPF(M)12-V



MPF(M)12-H



## Ordering Information for modular miniCON system



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

## Modular system

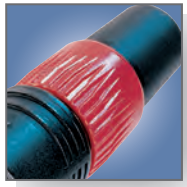
Female		Male	
MFI	Insert for cable connector	MMI	Insert for cable connector
MBC	Crimp contacts for cable connector and receptacle	MPC	Crimp contacts for cable connector and receptacle
MBS	Solder contacts for cable connector and receptacle	MPS	Solder contacts for cable connector and receptacle
MRF	Receptacle 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 130)		



Push Pull locking



All metal housing



Colored bushing available

neutriCON – Versatile Circular Connectors



OSC8F



MC8M-Ni



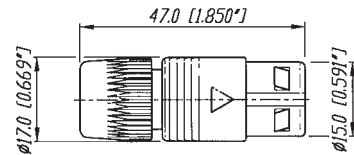
ORP8F-Ni



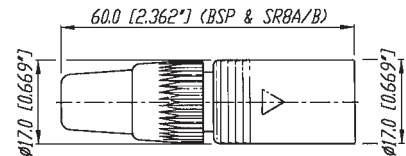
ORP8M

- 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

OSC8F / OSC8M

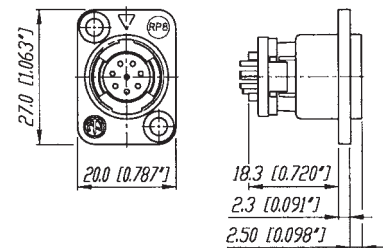


MODULAR SYSTEM



MC8 + SR8A/B + insert

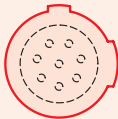
ORP8F / ORP8M



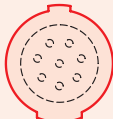
Polarization

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

Coding 90°



Coding 180°



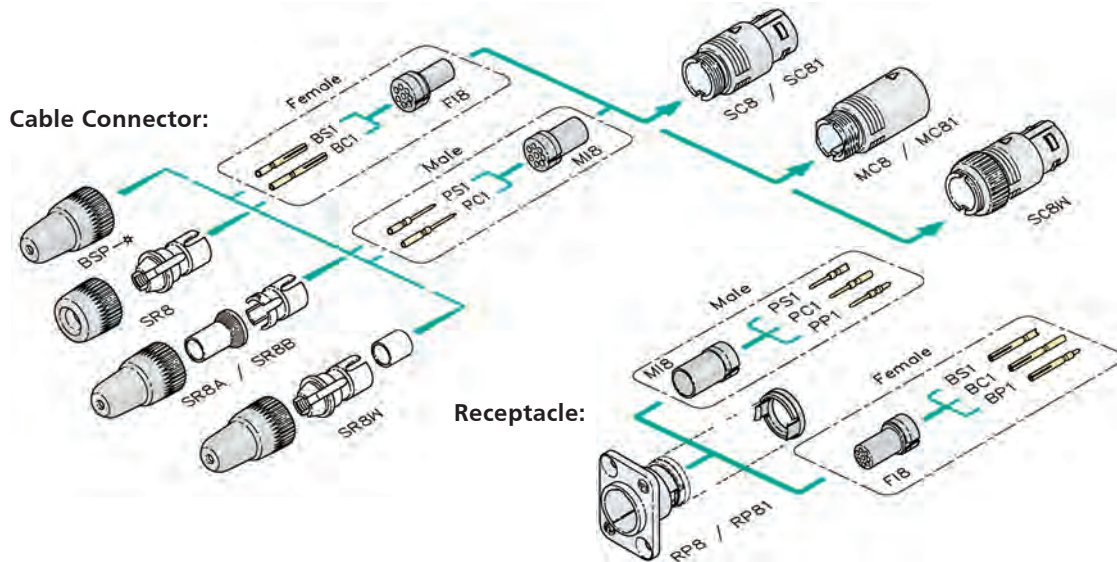
**Insert:** The male and female insert can be assembled in all three housings.

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	
F18	Insert for cable connector and receptacle	M18	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 130)		
SR8B	Crimp type strain relief for cable O.D. 6 – 7 mm (Hex crimp 7.01 mm acc. IEC 803, see also page 130)		
SR8W	Bushing and chuck type strain relief for waterproof solution IP 54		
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



## Crimptool



**Crimptool HX-CONTACT** DMC crimping tool AFM8  
acc. M22520/2-01



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

## Contact and connector assembly



**Crimptool HX-R-BNC** Neutrik® HEX crimping tool



**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 <sup>2</sup>	HX-CONTACT	MPOS-MBC	No. 5 / M22520/2-01
MPC	Male crimp contact	24 AWG / 0.22 mm <sup>2</sup>	HX-CONTACT	MPOS-MPC	No. 5 / M22520/2-01

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

Specification	nanoCON Series	miniCON Series	neutriCON Series
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## Electrical

Number of contacts:	3	12 (1-12 modular system)	8 (1-8 modular system)
Rated current per contact:	2 A	3 A	7.5 A (solder), 5 A (crimp)
Rated voltage:	50 V ac	50 V ac	50 V ac
Dielectric strength:	1000 V dc	1000 V dc	1500 Vdc
Contact resistance:	≤ 12 mΩ	≤ 8 mΩ	≤ 5 mΩ
Insulation resistance after damp heat test (IEC 68-2-30):	> 1 GΩ	> 500 MΩ	> 500 MΩ

## Mechanical

Retention method:	latch	Push-pull	Push-pull
Cable O.D. range:	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 (crimp version MSRC)	6 – 7 mm (SR8B)
Wiring:	0.2 mm <sup>2</sup> / 24 AWG for solid wire	0.5 mm <sup>2</sup> / 20 AWG for solder	1.0 mm <sup>2</sup> / 18 AWG for solder
	0.14 mm <sup>2</sup> 26 AWG for stranded wire	0.22 mm <sup>2</sup> 24 AWG for crimp	0.14 - 0.34 mm <sup>2</sup> 22 - 26 AWG for crimp
Solderability complies with IEC 68-2-20:	•	•	•

## Material

Housing cable connector:	CuSn4Pb4Zn4	ZnAl4Cu1 / CuZn39Pb3	ZnAl4Cu1 gal Ni or black chrome
Housing receptacle:	CuZn39Pb2	ZnAl4Cu1	ZnAl4Cu1, gal Ni or black chrome
Insert:	PETP	PA 6.6	PBTP 15% GR
Contacts:	CuZn35Pb2	CuZn35Pb2 (solder)	CuZn35Pb2 (solder)
		CuZn39Pb3 (crimp)	CuZn39Pb3 (crimp)
Contact surface:	0.5 μm Au	0.2 μm AuCo	CuSn6
			0.3 μm Au hard alloy over 2 μm Ni
Chuck POM:	•	•	•

## Environmental

Flammability:	UL 94 HB	-	-	•
Flammability:	UL 94 V-0	•	•	-
Temperature range:	-30 °C to +80 °C	•	•	•
Protection class (mated):	IP 40*	IP 5X	IP 5X	
Safety Requirements EN/IC61984:	-	-	-	

\*: Receptacle

FASTON® is a trademark of AMP Inc.







## Accessories



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.

## 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.



# Adapter



XLR connector



RCA phono socket



Jack with locking latch



BNC socket

## Circular Adapters



NA2FP



NA2MPMM



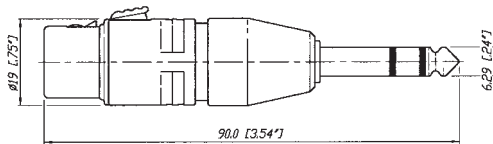
NA3MJ



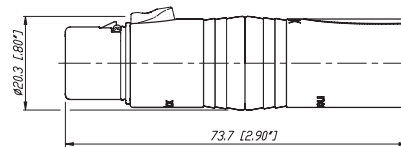
NA4FC-F

- 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

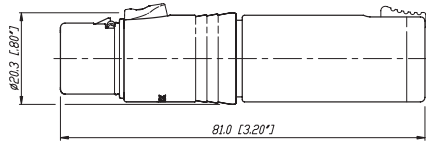
NA3FP



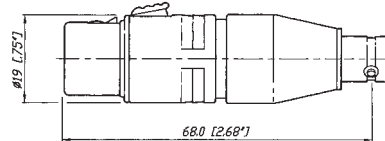
NA3FM



NA3FJ



NA2FBNC



Example drawing. Find more info on [www.neutrik.com](http://www.neutrik.com)

# Adapter



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

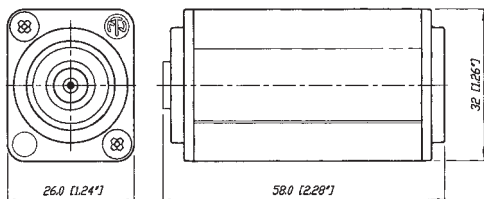
### Miniature transformer balancing adapters NA2\*-TX

- 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 / 10 K  
Max. input level @ 50 Hz at 1% THD: -3 dBu

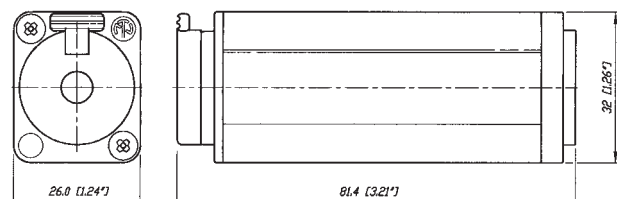


NA2F-D0B-TX

NA2BBNC-D9B



NA4MP-J



Example drawing. Find more info on [www.neutrik.com](http://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 <sup>2)</sup> , 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 <sup>2)</sup> , 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 <sup>2)</sup> , 1/4" jack	locking jack
NA3FM	3 pole XLR female	3 pole XLR male	extension adapter
NA3FMX	3 pole XLR female	3 pole XLR male	contacts 2 - 3 inverted
NA3FP	3 pole XLR female	TRS <sup>2)</sup> , 1/4" plug	
NA3JJ	stereo 1/4" jack	TRS <sup>2)</sup> , 1/4" jack	extension adapter, locking jack
NA3MJ	3 pole XLR male	TRS <sup>2)</sup> , 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 <sup>2)</sup> , 1/4" plug	
NA4FC-F	speakON NL4FC	3 pole XLR female	speaker adapter <sup>3)</sup>
NA4FC-M	speakON NL4FC	3 pole XLR male	speaker adapter <sup>3)</sup>
NA4LJX	speakON NL4FX	TS <sup>2)</sup> , 1/4" jack	speaker adapter <sup>3)</sup>
NA4MP-F	speakON NL4MP	3 pole XLR female	speaker adapter <sup>3)</sup>
NA4MP-J	speakON NL4MP	TS <sup>2)</sup> , 1/4" jack	speaker adapter <sup>3)</sup>
NA4MP-M	speakON NL4MP	3 pole XLR male	speaker adapter <sup>3)</sup>
NA4MP-M-X	speakON NL4MP	speakON NL4MP	speaker adapter 1+ / 1- inverted <sup>3)</sup>
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 <sup>4)</sup>
NA2F-D2B-TX	3 pole XLR female	RCA / phono socket	colour coded red <sup>4)</sup>
NA2F-J-TX	3 pole XLR female	1/4" jack	ground lifted <sup>4)</sup>
NA2M-D0B-TX	3 pole XLR male	RCA / phono socket	colour coded black <sup>4)</sup>
NA2M-D2B-TX	3 pole XLR male	RCA / phono socket	colour coded red <sup>4)</sup>
NA2M-J-TX	3 pole XLR male	1/4" jack	ground lifted <sup>4)</sup>
NE8FF	etherCON	etherCON	RJ45 coupler
NL4MMX	4 pole speakON	4 pole speakON	lockable coupler
NL8MM	8 pole speakON	8 pole speakON	lockable coupler
NAC3MM-1	3 pole powerCON	3 pole powerCON	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](http://www.neutrik.com)

4): Unbalanced / balanced line conversion, 1:1 transformer 200 Ω : 200 Ω

# Adapter



3 pole XLR female receptacle



3 pole cable connector



BNC chassis

## AES / EBU Digital Impedance Transformer Adapters



NADITBNC-F



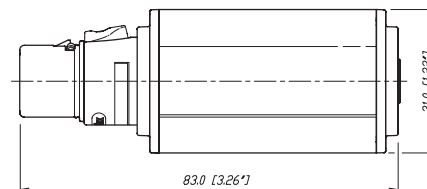
NADITBNC-FX



NADITBNC-MX

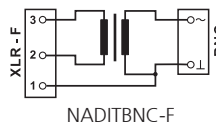
- Cost effective exceptional impedance matching adapters
- Allow long cable runs for digital audio signals via low attenuation coax lines
- Match balanced ( $110\ \Omega$ ) to coaxial lines ( $75\ \Omega$ )
- Pre-wired in black anodized aluminum extrusions for increased durability
- AES/EBU adapters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

NADITBNC-FX

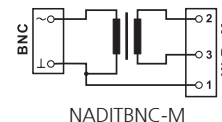


### Technical Data

Maximum voltage / Max. power:	5 Vp-p / 250 mW
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 $\Omega$ XLR input and 75 $\Omega$ BNC output
NADITBNC-M	3 pole XLR male chassis	female BNC chassis	75 $\Omega$ BNC input and 110 $\Omega$ XLR output
NADITBNC-FX	3 pole XLR female cable con.	female BNC chassis	110 $\Omega$ XLR input and 75 $\Omega$ BNC output
NADITBNC-MX	3 pole XLR male cable con.	female BNC chassis	75 $\Omega$ BNC input and 110 $\Omega$ XLR output

# Adapter



5 pole male connector



5 pole female connector



All metal housing

## DMX Adapters

## Feedthrough



NA3F5M



NA3F5M



NA3FDM



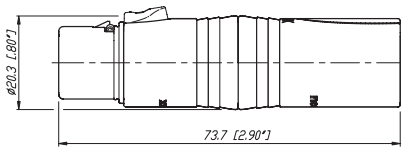
NA3MDF

- 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

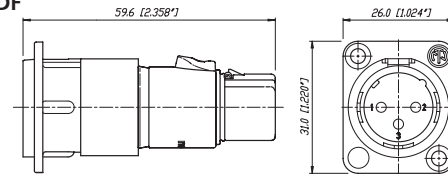
- 3 pole XLR feedthrough adapter
- D-flange chassis mount
- Male to female and vice versa
- Utilizes XX-components



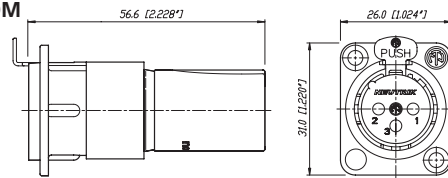
NA3F5M



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

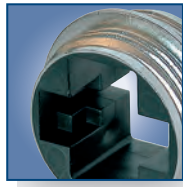




3 pole plug



SM2/2 switch



VM housing

## Modules & Audio Transformers



NM3FXI



NM3P



KMX



SM2/2

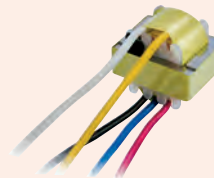


NM3FD-B

- 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

### 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



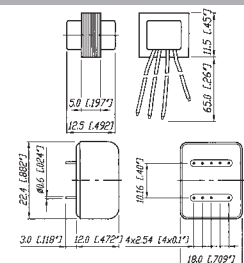
NTL1

### Audio Transformer selection Guide

Part No.	Turns Ratio (prim : sec)	Impedance ratio	Source / load impedance in $\Omega$	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

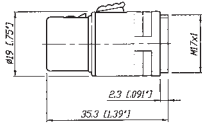
Wiring: NTE\*: free wires, NTL / NTM\*... PCB mount, shielded; Find detailed specifications on [www.neutrik.com](http://www.neutrik.com)



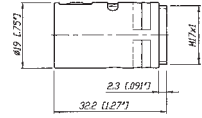
## Module Selection Guide

### Connector module

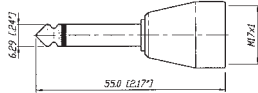
NM3FXI  
XLR female  
M17x1 outside



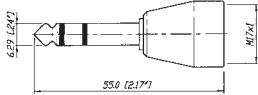
NM3MXI  
XLR male  
M17x1 outside



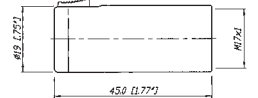
NM2P  
mono 1/4" plug  
M17x1 inside



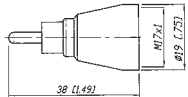
NM3P  
stereo 1/4" plug  
M17x1 inside



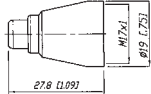
NM3J  
stereo 1/4" jack  
M17x1 inside



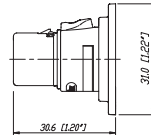
NMPMM  
RCA male  
M17x1 inside



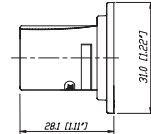
NMPMF  
RCA female  
M17x1 inside



NM3FD-B  
black plated  
D-Shape

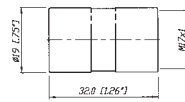


NM3MD-B  
black plated  
D-Shape

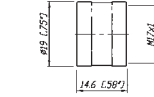


### Coupler / housing

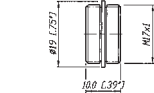
KM  
M 17x1 inside



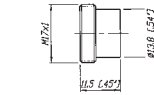
KMX  
M 17x1 inside



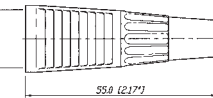
VM  
M 17x1 outside



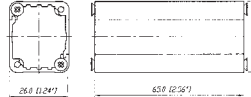
VMX  
M 17x1 outside



CM  
cable outlet  
M 17x1 inside

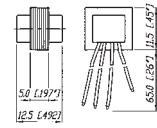


NA-Housing<sup>1)</sup>  
black plated  
screws included

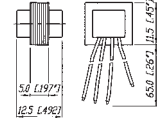


### Transformer / switch

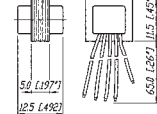
NTE1  
1:1



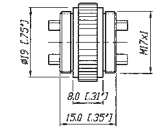
NTE4  
1:4



NTE10/3  
1:3:10

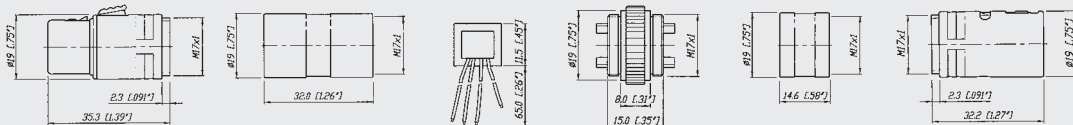


SM2/2  
2x2 switch  
M17x1 outside



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

### Example:



NM3FXI

KM

NTE1

SM2/2

KMX

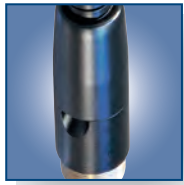
NM3MXI



3 pole XLR with securing ring



Flexible spiral



Integrated cable outlet

## Goosenecks



GNS18



GN36



GNS50

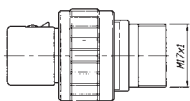
- For flexible and secure mounting of microphones, lamps etc.
- Versatile, modular system allows various combinations
- Durable stainless steel spiral, no rust, no noise, non-reflective black finish
- Theft proof microphone connection on GNS version (securing ring and fixing screw)
- Strong, flexible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

## Ordering Information

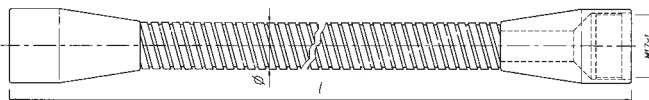
Part No.	Description	
GN18	M17 x 1 inside thread at both ends	(∅ 12 mm, 230 mm length)
GN36	M17 x 1 inside thread at both ends	(∅ 13 mm, 360 mm length)
GN50	M17 x 1 inside thread at both ends	(∅ 15 mm, 500 mm length)
Gooseneck sets:		
GNS18	Gooseneck set GN18, NC3FX-Spec., cable outlet, NAM5 adapter, M17 x 1 bolt thread	
GNS36	Gooseneck set GN16, NC3FX-Spec., cable outlet, NAM5 adapter, M17 x 1 bolt thread	
GNS50	Gooseneck set GN50, NC3FX-Spec., cable outlet, NAM5 adapter, M17 x 1 bolt thread	
Accessories:		
NAM4	M17 x 1 outside thread, 5/8" 27 UNS inside thread <sup>1)</sup>	
NAM5	3/8" inside thread, 5/8" 27 UNS outside thread <sup>1)</sup>	
GF1	Mounting kit: Flange ∅ 63.5 mm including mounting bolt M17x1, 13 mm length <sup>1)</sup>	
MSG	Mounting bolt M17 x 1, 30 mm length <sup>1)</sup>	

<sup>1)</sup> : Find detailed specifications on [www.neutrik.com](http://www.neutrik.com)

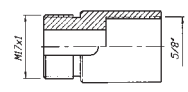
### GNS Set consisting of:



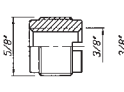
NC3FX-Spec



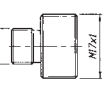
GN



Cable outlet



NAM5

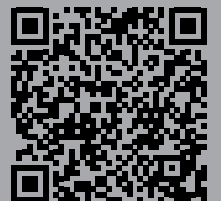


M17x1 bolt





## Patch Panels



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**NEUTRIK®**, **opticalCON®**, **neutriCON®**, **miniCON®**, **nanoCON®**, **powerCON®**, **Profi®**, **speakON®**, **silentPLUG®**, **crystalCON®**, **etherCON®**, **rearTWIST®**, **XIRIUM®**, **DIWA®** are registered trademarks of Neutrik AG.

## 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.

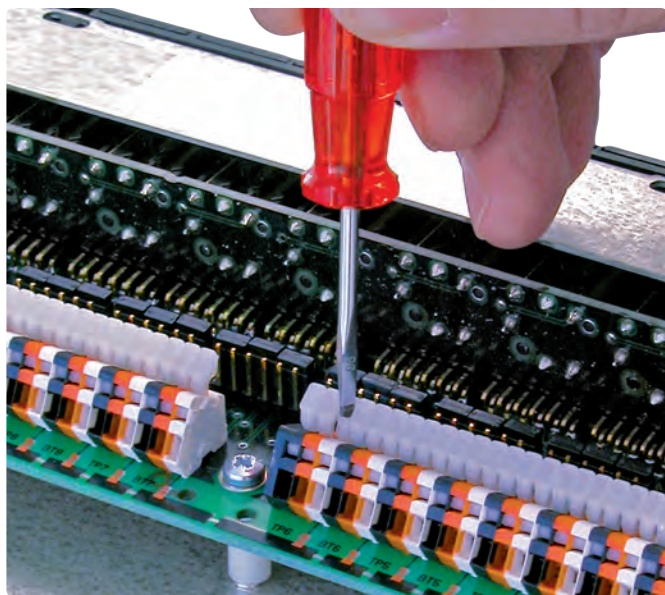
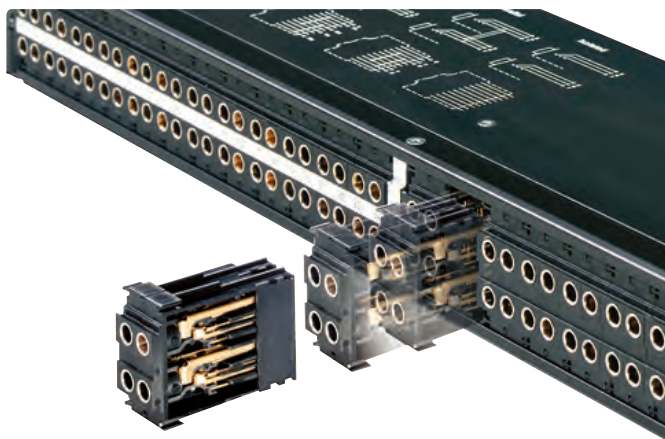
Neutrik® Patch Panels are available in a variety of jack types, wiring and grounding possibilities.

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.



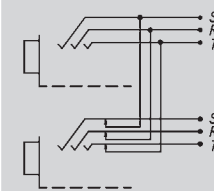
## Audio Normalling

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

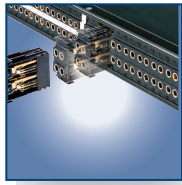


connect the top jack contact with the corresponding bottom jack contact. Inserting a plug in the bottom jack will interrupt this internal normalling connection, while inserting a patch cord into the top jack doesn't interrupt the circuit. (Can be used to monitor the normalling circuit)

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



Robust front design



Easy assembly



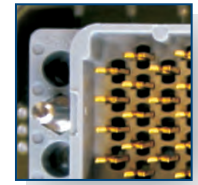
Jack-pair



IDC terminals



Push terminals



ELCO connectors

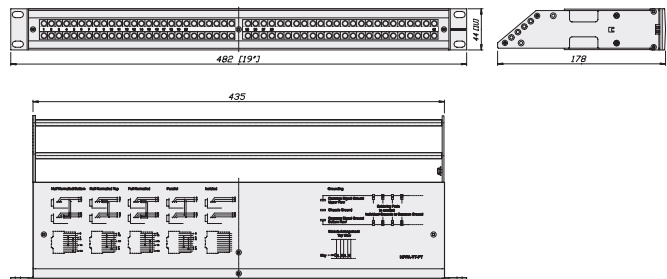
## NPPA-Series – 96 Bantam (TT) Jacks



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 NPPA patch panels are fitted with high quality, long life NJ3TTA gold plated double contact jacks (2x48), featuring best contact integrity. The unit, robustly housed in a black coated steel shell, is finished off with a built in cable bar and two large channel identification strips for perfect management of the system. The NPPA patch panels are an innovative and compact patching system (just 1U high) for 19" rack mounting.

## Configuration

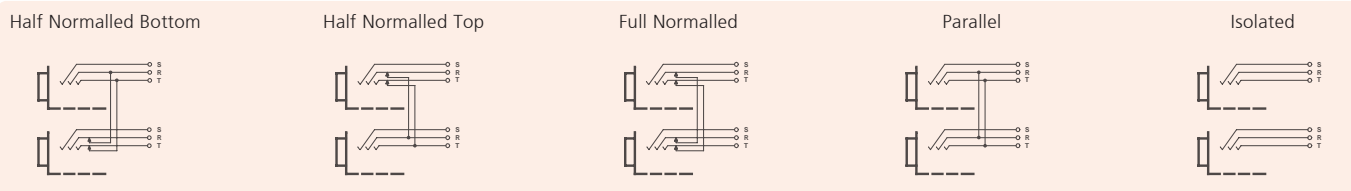
The standard version of the NPPA Panel is delivered bottom row half normalled for each jack pair by default. Further patch versions are available with fully loaded jack-pairs as:

- 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.



## 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 mm<sup>2</sup>) and solid wires up to AWG 18 (0.75 mm<sup>2</sup>). Push terminals are gas tight connections.

For Pin assignment of ELCO / EDAC and D-SUB connectors please see drawings on [www.neutrik.com](http://www.neutrik.com)

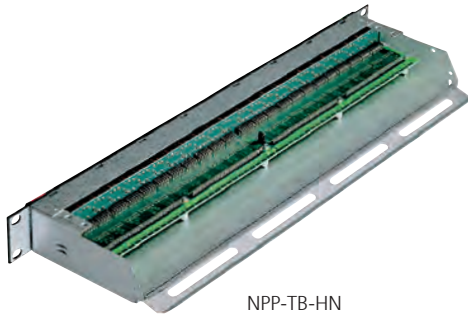


Individual colour coding

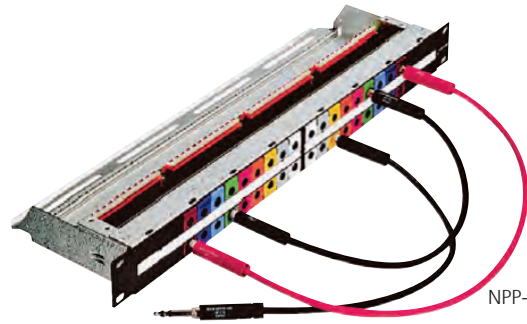


Galvanized metal housing

## NPP-TB-Series - 48 B-Gauge Jacks



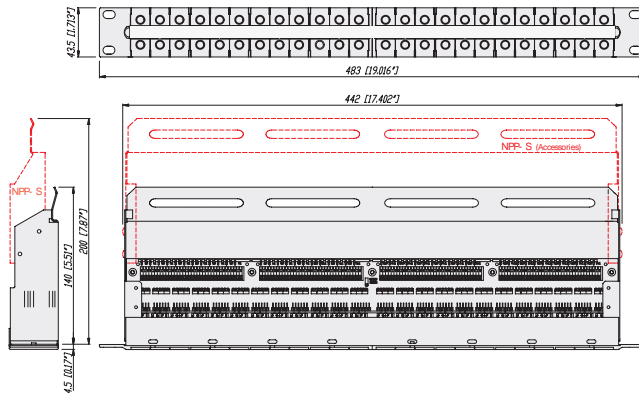
NPP-TB-HN



NPP-TB + NPP-LB\*

- Features 2 x 24 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



## Design Criteria

The NPP-TB patch panels are equipped with gold plated, high quality long life NJ6TB-V Jacks for BPO/MIL style plugs. The panels are easily programmable for six switching configurations and offer a flexible grounding system. The NPP-TB patch panels are very robust and compactly designed for 19" rack mount (19" x 1U) with galvanized metal housing and a built-in cable bar on the rear for securing wires. There is a rear extension bar (NPP-S) available as an option. On the front side there is an

attractive additional lettering area for each channel pair with a marking strip and individual snap-on colour coding plates.

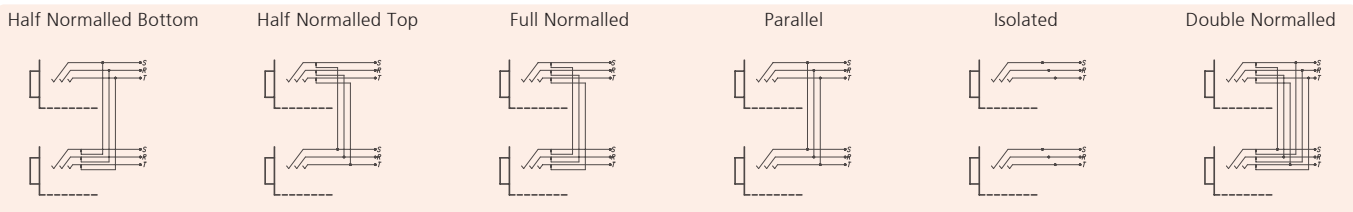
## Configuration

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.



## 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<sup>2</sup>) and solid wires up to AWG 18 (0.75 mm<sup>2</sup>).



Ruggedized metal housing



Imprinted grounding instruction



Module  
NYS-SPCR1

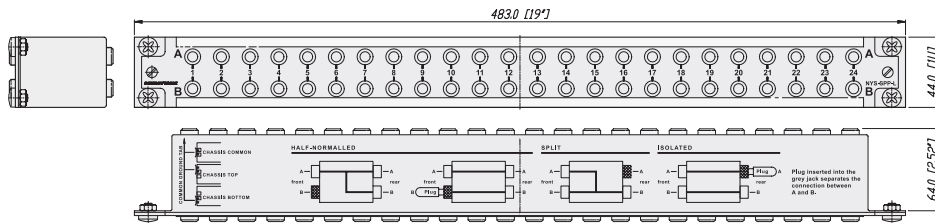
## 1/4" Patch Panel



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 individually chooseable channel numbers (detailed information see below).

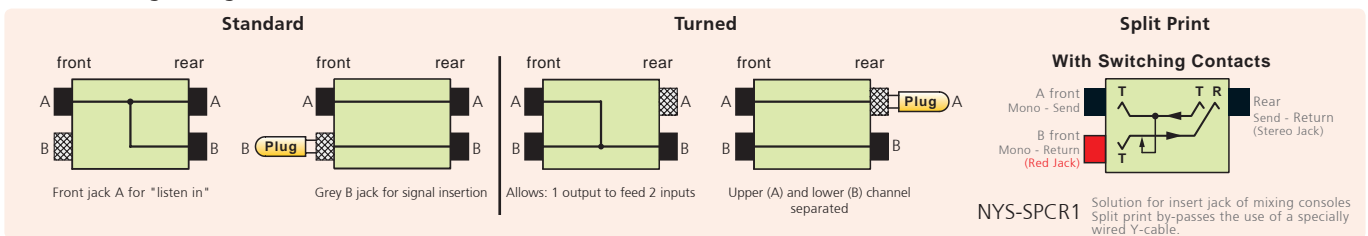
The PCBs are held securely in place by being clamped between the front and the rear panel, this grants an easy reconfiguration of the patch panel without the danger of loosing any small parts (e.g. nuts). The grey jack serves as an easy and distinguishable normalling identification.

## 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).

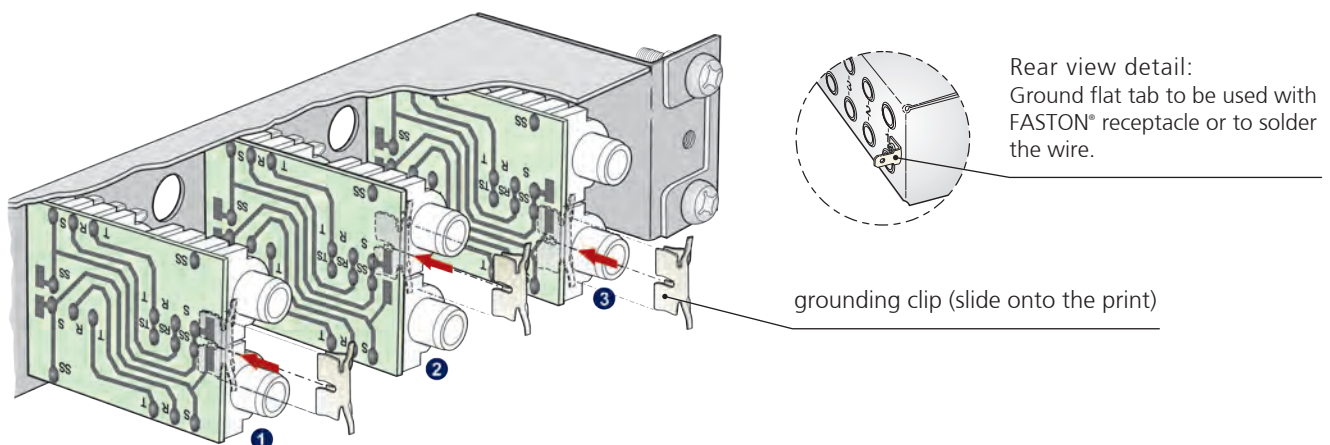
The following configurations are available:



## 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.



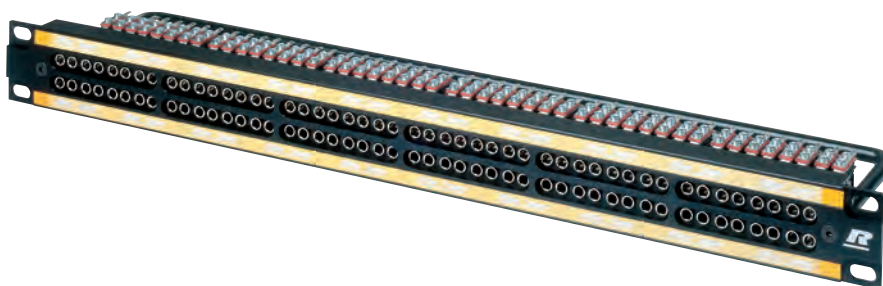


Standard 4.4mm  
bantam jack



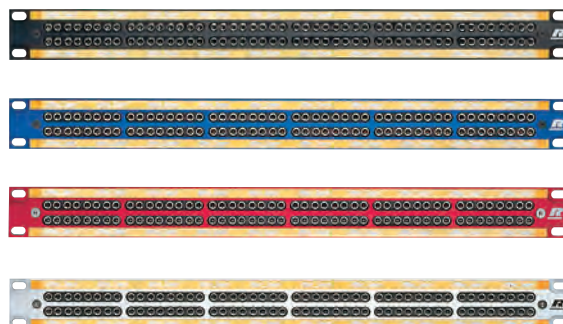
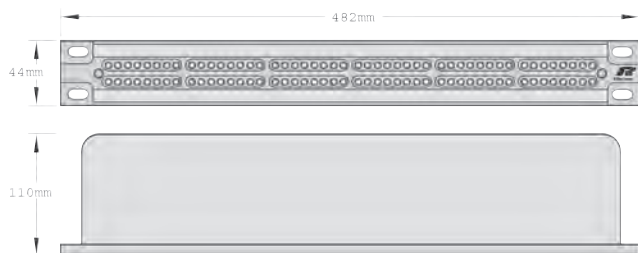
Long frame jack  
socket

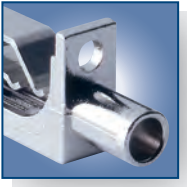
## MA 96 and XPM 96 Bantam Patchbays



- 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



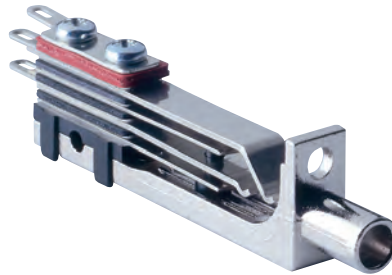


Die-cast frame



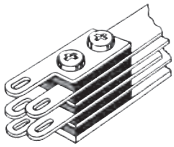
Tinned tags

## MAJ 501 Bantam Jack Socket

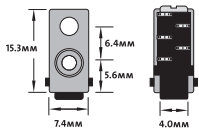


- 5-point Bantam jack socket (Tip, Ring, Sleeve, Tip Normal, Ring Normal)
- Rigid nickel plated die-cast frame, featuring considerable frame strength eliminating physical distortion when plug is inserted
- Nickel-silver spring contacts, palladium plated switch contacts
- Tinned tags for easy soldering

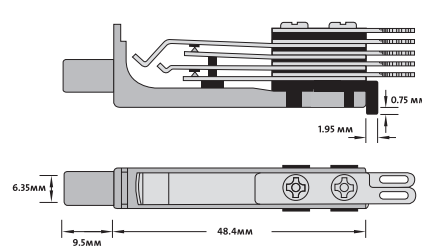
### Termination



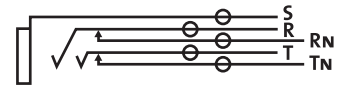
### End Elevations



### Plan Elevations



### Circuit Detail





B-Gauge patchbay



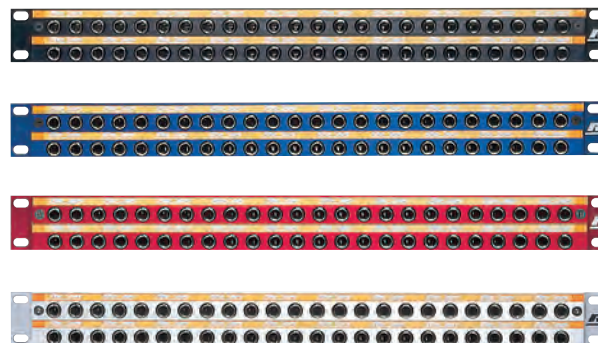
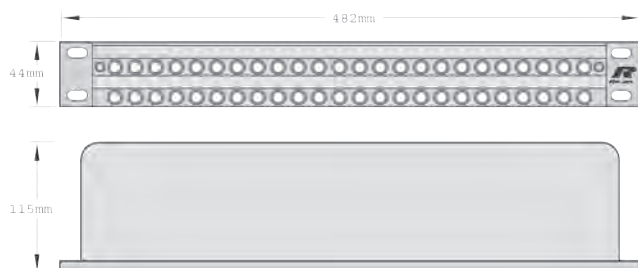
48 way longframe

## LF 48 B-Gauge Patchbays

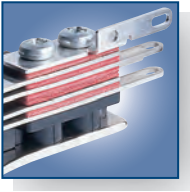


- 48 way Longframe B-Gauge patchbay
- Accepts both European BPO 316 and US MIL-P-642/2 style phono plugs
- 2 rows of 24 LF501 jack connectors
- Jack designed from rigid nickel-plated die-cast aluminium with nickel-silver spring contacts
- Available in 4 colours: black, silver, red or blue
- Reliable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

### Dimensional Drawing







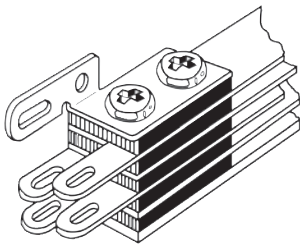
Solder lugs

## LFJ 501 B-Gauge Jack Socket

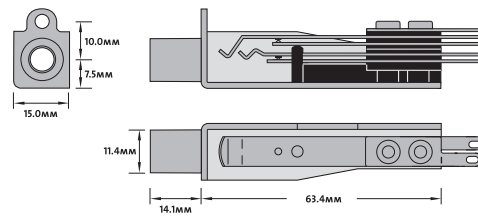


- 5-point B-Gauge jack socket
- Nickel-silver spring contacts
- Palladium plated switch contacts
- Durable die-cast body with bright nickel plated nose
- Termination solder lugs

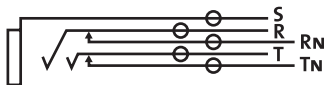
### LFJ 501



### Plan Elevations



### Circuit Detail



Specifications	NPPA Series	NPP-TB Series	NYS Series	MA 96 and XPM 96	LF 48 Series
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## 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")	B-Gauge 1/4" plug	A-Gauge 1/4" plug	4.4 mm (0.173")	Longframe	
	Bantam plug		acc. EIA RS-453	Bantam plug	B-Gauge plug	
	according	MIL-P-642/13	BPO316/MIL-P-642/2	TEC60603-11	MIL-P-642/13	BPO316/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](http://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

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
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### MA96 and XPM-96

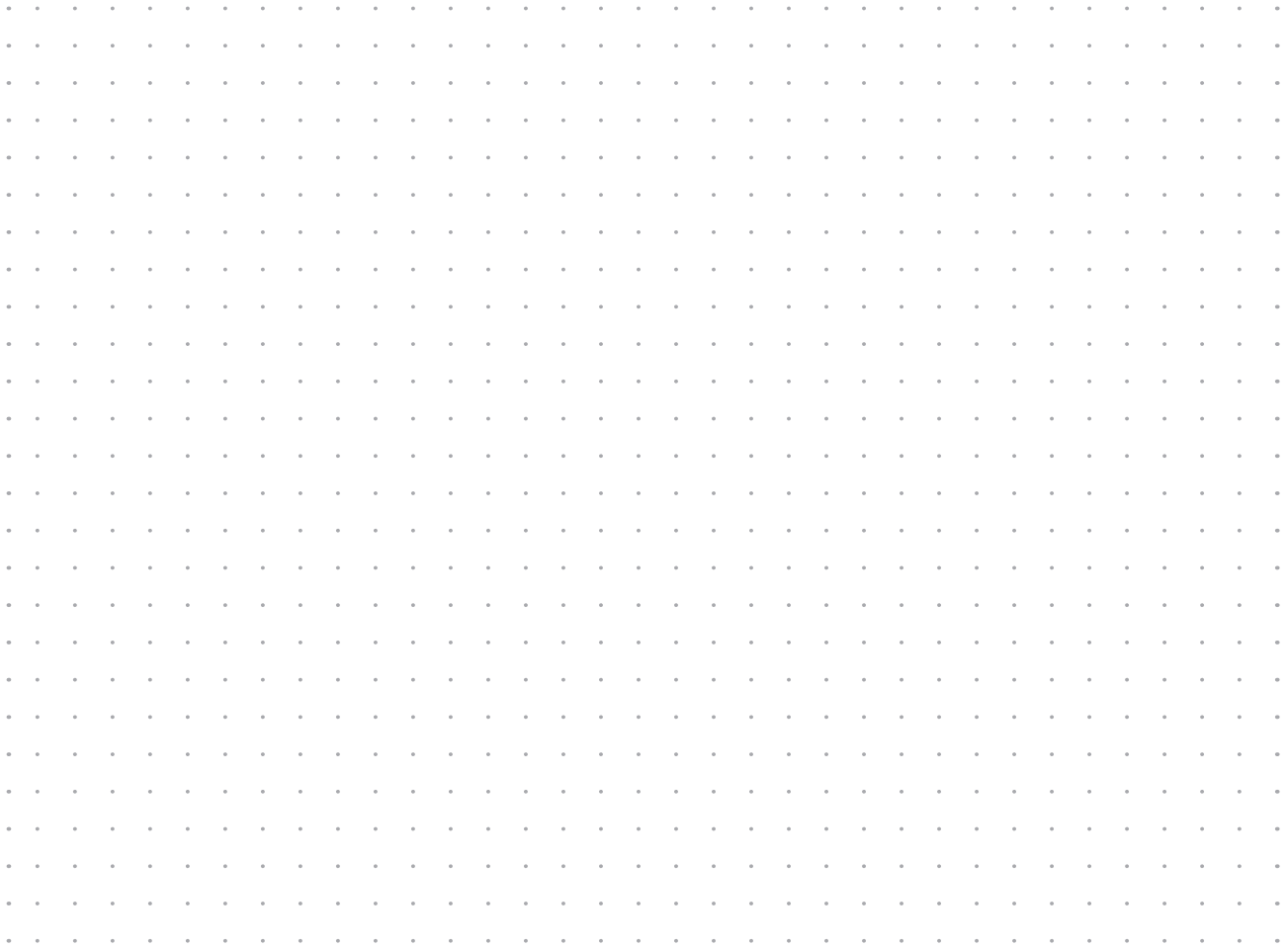
MA96-1A	96 way, Red front panel – grouped 12 x 8
MA96-1D	96 way, Blue front panel – grouped 12 x 8
MA96-1O	96 way, Black front panel – grouped 12 x 8
MA96-1S	96 way, Silver front panel – grouped 12 x 8
XPM-96SS	96 way, Silver front panel – grouped 4 x 24
XPM-96SO	96 way, Black front panel – grouped 4 x 24

### Bantam Jack Socket

MAJ-501	Standard Solder Tag
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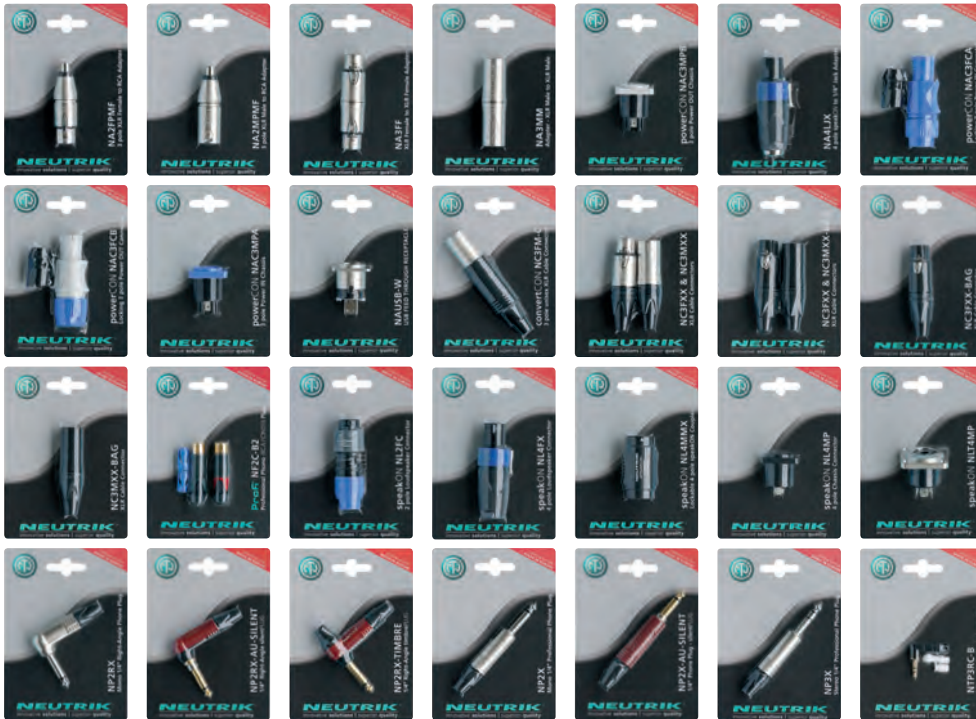
### LF48 Longframe B-Gauge Patchbays

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



# New POS-Packaging

Easily identifiable and provided with all necessary wiring references Neutrik's high quality products have become even more attractive.



## Available product range:

- NA2FPMF-POS
- NA2MPMF-POS
- NA3FF-POS
- NA3MM-POS
- NA4LJX-POS
- NAC3FCA-POS
- NAC3FCB-POS
- NAC3MPA-POS
- NAC3MPB-POS
- NAUSB-W-POS
- NC3FM-C-POS
- NC3FXX+MXX-POS
- NC3FXX-BAG-POS
- NC3MXX-BAG-POS
- NF2C-B2-POS
- NL2FC-POS
- NL4FX-POS
- NL4MMX-POS
- NL4MP-POS
- NLT4MP-POS
- NP2RX-POS
- NP2RX-SILENT-POS
- NP2RX-TIMBRE-POS
- NP2X-POS
- NP2X-SILENT-POS
- NP3X-POS
- NTP3RC-B-POS

## 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)
	0.305	meter (m)
6 foot	1.828	meters (m)
50 foot	15.24	meters (m)
100 foot	30.48	meters (m)
1000 foot	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
	ENEC – European norms electrical certification, demonstrates compliance with European safety standards.
	VDE Association for Electrical, Electronic and Information Technologies e.V.
AWG	American Wire Gauge

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# Neutrik Product Line

<b>XLR Connectors</b>	X Series	XX Series	RX Series	convertCON	XX-HD Series	XS Series	A Series	AA Series	B Series	BA Series	D Series	DL Series	DLX Series	P Series	MPR Series	Combo Series	Combo A Series
<b>Plugs &amp; Jacks</b>	PX Series	silentPLUG	timbrePLUG	MIL/B-Gauge Type Plugs	0.73" Bantam	3.5 mm Plug	Cable Jack	Chassis Jacks	Vertical Jacks	Slim-Line	M-Line	Stacking Jacks	Phono - Profi	Phono - Socket			
<b>Loudspeaker Connectors</b>	speaKON SPX Series	speaKON FC Series	speaKON Adapter	speaKON Chassis Connectors	speaKON CAT6 Cable & Chassis Connectors	speaKON Combo	speaKON STX Series	speaKON STX Chassis									
<b>Data Connectors</b>	opticalCON Cable & Chassis Connectors	opticalCON Breakout Box	opticalCON D-Shape Z-Panel & powerMONITOR	ethernetCON Cable & Chassis Connectors	ethernetCON CAT6 Cable & Chassis Connectors	ethernetCON Combo	ethernetCON STX Series	ethernetCON STX Chassis									
<b>75 Ohm BNC Connectors</b>	rearTWIST	Tiny Cable Jack	Chassis	Bulkhead Jacks	Female Cable Jack												
<b>powerCON Connectors</b>																	
<b>Accessories</b>																	
<b>Patch Panels</b>																	

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# Product Guide