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Profi

neutrikON

nanoCON

Product Guide | 2014 / 15

miniCON

speakON

powerCON

etherCON

silentPLUG

crystalCON

convertCON

timbrePLUG

ultimatePLUG

opticalCON

opticamSWITCH

NEUTRIK®

The Neutrik® Line

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 km² 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 593 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 km² | Capital: Vaduz | Inhabitants: 36,838
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

© Regierung des Fürstentums Liechtenstein.

About Neutrik®

Neutrik is an international corporation with four decades of know-how and experience in the manufacture of innovative electrical and electronic interconnection products and systems.

The company was founded in 1975 as a two man operation with the idea to creating innovative products utilizing the latest in mechanical and electronic know-how and creativity. Today we are the world leader in the design, manufacture and marketing of audio, coaxial, power and circular connectors. Our main priority is to be „one step ahead", i. e. to understand the future market needs before they become obvious and to accommodate demands before they occur.
From the beginning Neutrik has concentrated on the development of innovative audio connector products. Today Neutrik leads the way in the professional audio market.

Our audio range includes XLR connectors, plugs, jacks, speaker connectors, patch bays and fiber optic connection systems. Many patents granted, numerous patents pending and the many license agreements since our beginning in 1975, evidence Neutrik's innovation and creative achievements. No doubt, our customers have the confidence in having high quality products at an unsurpassed cost/performance ratio whenever they come across Neutrik.
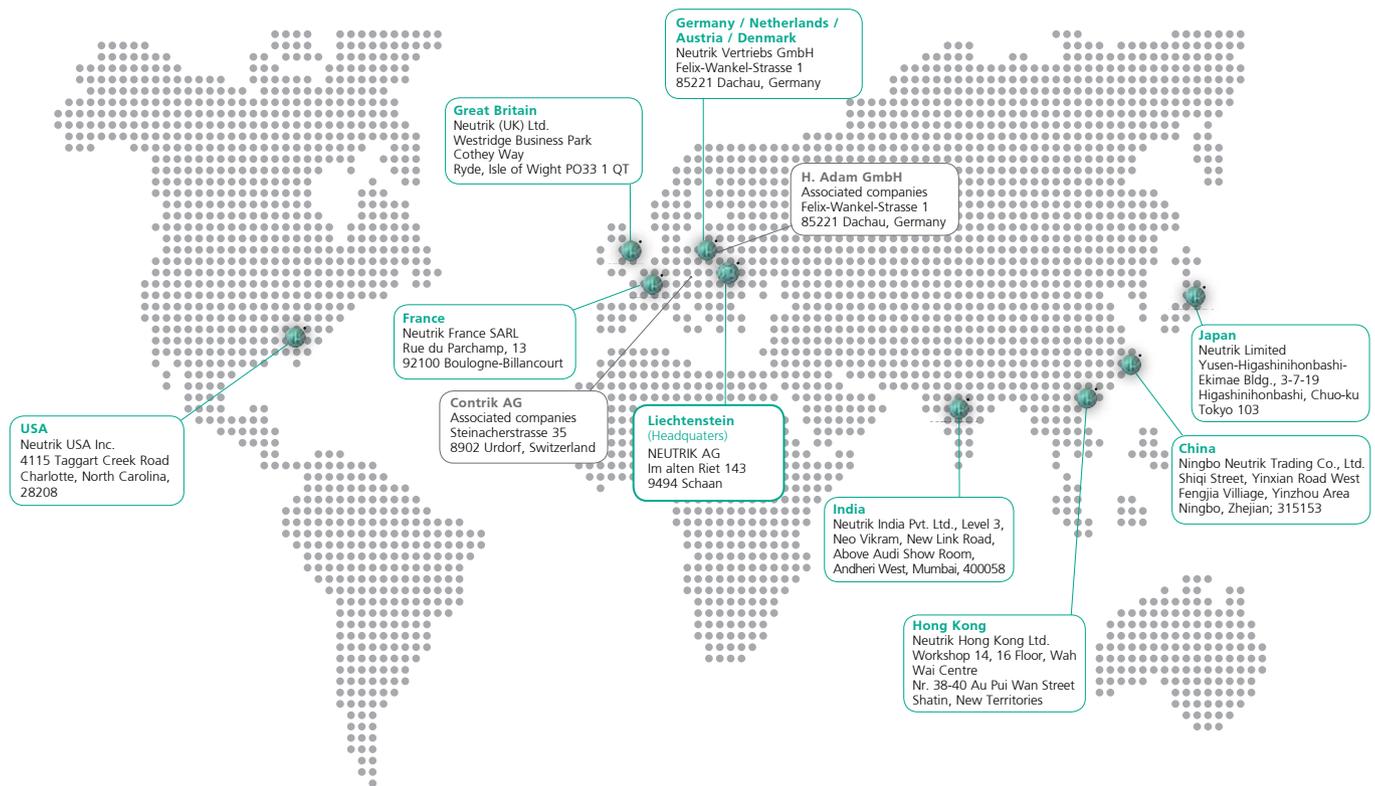
Neutrik's strong market position results from the ability to be aware of market needs at an early stage and to meet these requirements quickly by innovative and customized designs and stage-of-the-art production technologies. Neutrik is committed to excellence in innovation, quality based on ISO 9001-2008 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 AG Liechtenstein

**Germany / Netherlands /
Austria / Denmark**
Neutrik Vertriebs GmbH
Felix-Wankel-Strasse 1
85221 Dachau, Germany

Great Britain
Neutrik (UK) Ltd.
Westridge Business Park
Cothey Way
Ryde, Isle of Wight PO33 1 QT

H. Adam GmbH
Associated companies
Felix-Wankel-Strasse 1
85221 Dachau, Germany

France
Neutrik France SARL
Rue du Parchamp, 13
92100 Boulogne-Billancourt

Japan
Neutrik Limited
Yusen-Higashinihonbashi-
Ekimae Bldg., 3-7-19
Higashinihonbashi, Chuo-ku
Tokyo 103

Contrik AG
Associated companies
Steinacherstrasse 35
8902 Urdorf, Switzerland

Liechtenstein
(Headquaters)
NEUTRIK AG
Im alten Riet 143
9494 Schaan

USA
Neutrik USA Inc.
4115 Taggart Creek Road
Charlotte, North Carolina,
28208

China
Ningbo Neutrik Trading Co., Ltd.
Shiqi Street, Yinxian Road West
Fengjia Villiage, Yinzhou Area
Ningbo, Zhejian; 315153

India
Neutrik India Pvt. Ltd., Level 3,
Neo Vikram, New Link Road,
Above Audi Show Room,
Andheri West, Mumbai, 400058

Hong Kong
Neutrik Hong Kong Ltd.
Workshop 14, 16 Floor, Wah
Wai Centre
Nr. 38-40 Au Pui Wan Street
Shatin, New Territories

Worldwide distribution network

Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Bahrain, Belarus, Belgium, Bosnia-Herzegovina, Brazil, Brunei, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Curacao, Cyprus, Czech Republic Denmark, Dominican Republic, El Salvador, Estonia, Ecuador, Fiji Islands, Finland, France, Germany, Great Britain, Greece, Guatemala, Hungary, Hong Kong, Iceland, India, Indonesia, Iran, Israel, Italy, Japan, Jordan, Korea, Kuwait, Latvia, Lebanon, Lithuania, Luxenburg, Macau, Macedonia, Malaysia, Maldives, Malta, Marocco, Mauritius, Mexico, Myanmar, New Caledonia, New Zealand, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tahiti, Taiwan, Thailand, Trinidad & Tobago, Tunisia, Turkey, Ukraine, United Arabian Emirates, Uruguay, USA, Venezuela, Vietnam

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 stand-ardized 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 (REACH)
EU 2002/95/EC (RoHS1)
EU 2002/96/EC (WEEE)
EU 2011/65/EC (RoHS2)
Sony Technical Standard SS-00259
(Sony Green Partner)

proudly (T) engineered

setting**standards**

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

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

Definitions, Abbreviations & Useful Information see page 174.

XLR Connectors

C o n t e n t — P a g e

NEUTRIK®, opticalCON®**, neutri**CON®**, mini**CON®**, nano**CON®**, power**CON®**, Profi®, speak**ON®**, silent**PLUG®**, crystal**CON®**, ether**CON®**, rear**TWIST®**, XIRIUM®, DIWA® are registered trademarks of Neutrik AG.**

innovative **solutions** | superior **quality**

Introduction

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

XLR connectors are part of almost every aspect of professional audio; as a microphone connector, in lighting systems, and found in almost any piece of sound equipment in the entertainment industry. The outstanding success of our XLR products is Neutrik's blend of innovation with the highest quality performance.

Ergonomic latch design

White painted housing

c ®UL US

Circumferential ground shield contact
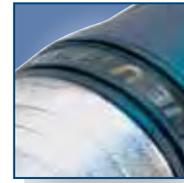
Neutrik hologram

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
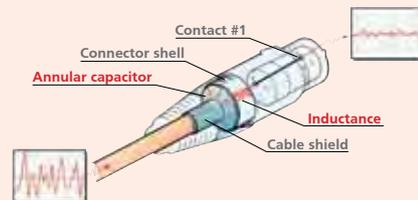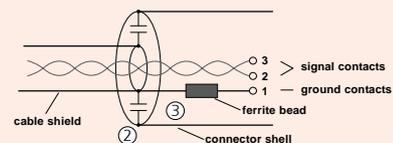- Patent

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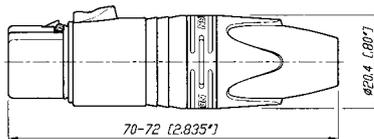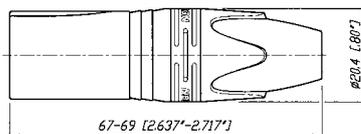
① Design guarantees a continuous RF-shield connection but avoids ground loops (no LF-shield connection)
② Circular capacitor enables low-inductive shield connection to connector housing
③ Cable shield - PIN 1 connection includes EMI suppression bead (blocks high frequencies)

NC*FXX

Ø20.4 [.80"]

70–72 [2.835"]

NC*MXX

Ø20.4 [.80"]

67–69 [2.637"–2.717"]

*: 3 - 7 contacts

3
2
1 signal contacts
ground contacts
cable shield
③ ferrite bead
② connector shell

innovative **solutions** | superior **quality**

Right angle male
connector

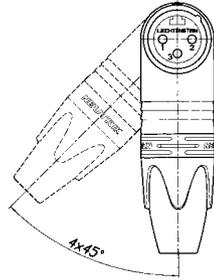High temperatur
resistant insulator

Velour chromium
housing

R X   S e r i e s

NC3FRX-BAG

Outlet position

4x45°

- 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 on female &
  7 position on male connectors
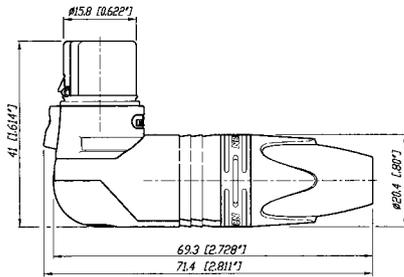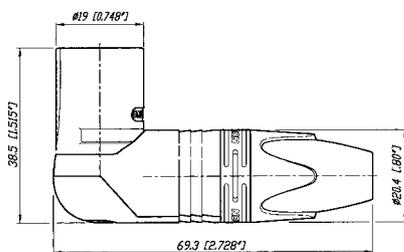
X X - H E   S e r i e s

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
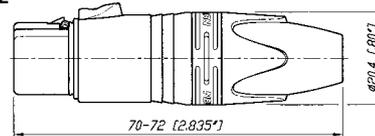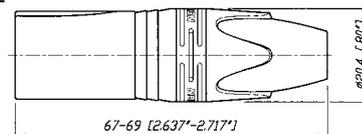 insulators
- Flammability UL 94V-0

NC*FRX

Ø15.8 [0.622"]

41 [1.614"]

Ø20.4 [.80"]

69.3 [2.728"]
71.4 [2.811"]

NC*MRX

Ø19 [0.748"]

38.5 [1.515"]

Ø20.4 [.80"]

69.3 [2.728"]

*: 3 - 7 contacts

NC3FXX-HE

Ø20.4 [.80"]

70-72 [2.835"]

NC3MXX-HE

Ø20.4 [.80"]

67-69 [2.637"-2.717"]

Large cable outlet

Ergonomic latch design

Neutrik hologram

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
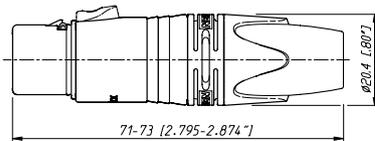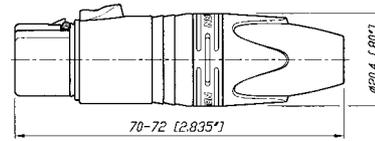- Bulk packed; must be ordered in multiples of 100

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^2
- 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
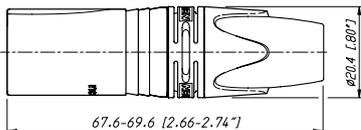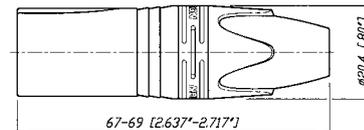

71-73 [2.795-2.874"]   Ø20.4 [.80"]

NC3FXX-HA

70-72 [2.835"]   Ø20.4 [.80"]

NC3MXX-14

67.6-69.6 [2.66-2.74"]   Ø20.4 [.80"]

NC3MXX-HA

67-69 [2.637"-2.717"]   Ø20.4 [.80"]

innovative **solutions** | superior **quality**

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
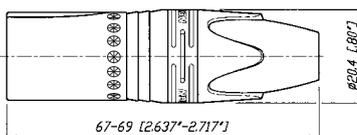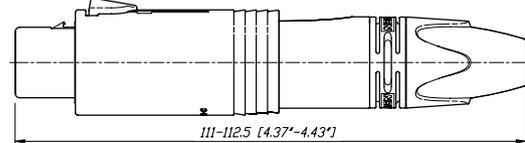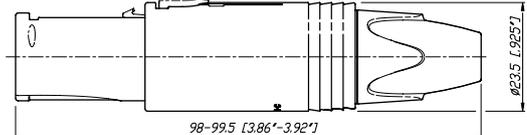
NC3FXX-B-CRYSTAL

70–72 [2.835"]   Ø20,4 [.80"]

NC3MXX-B-CRYSTAL

67–69 [2.637"–2.717"]   Ø20,4 [.80"]
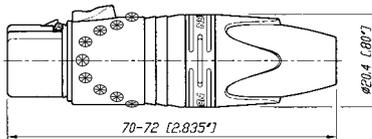
NC3FM-C: Position Female

111–112,5 [4.37"–4.43"]

NC3FM-C: Position Male

98–99,5 [3.86"–3.92"]   Ø23,5 [.925"]

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
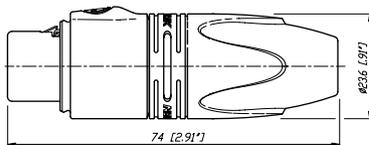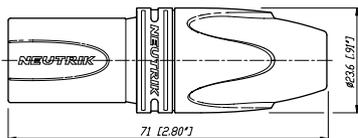
X Series

NC3FX

NC3MX + BSX-5

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

NC3FXX-HD-D

⌀36 [.91"]
74 [2.91"]

NC3MXX-HD-D

⌀36 [.91"]
71 [2.80"]

NC*FX

⌀19 [.75"]
70-72 [2.756"-2.835"]

NC*MX

⌀19 [.75"]
67-69 [2.637"-2.717"]
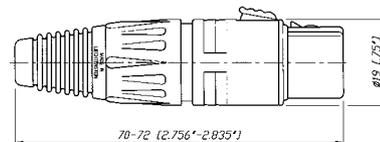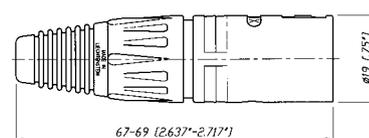
*: 3 - 7 contacts

Rubber sealing protection

Metal bushing

Coding ring

X - H D   S e r i e s

NC5FX-HD

NC4MX-HD

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

X C C   S e r i e s

NC3FXCC

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

NC*FX-HD

Ø19 (.75")

70-72 (2.756"-2.835")

NC3FXCC

Ø19 (.75")

70-72 (2.756"-2.835")

NC*MX-HD

Ø19 (.75")

67-69 (2.637"-2.717")

NC3MXCC

Ø19 (.75")

67-69 (2.637"-2.717")
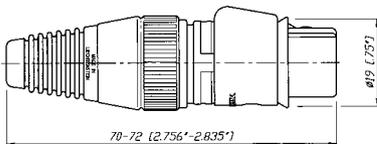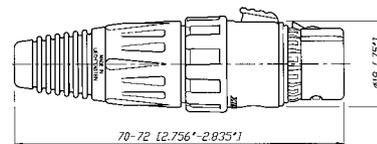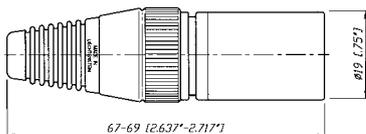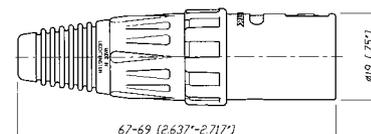
*: 3 - 5 contacts

Switch activating ring

Locking ring

FXS Series

NC3FXS   NC3FXS-B

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

NC3FXS

FX-SPEC Series

NC3FX-SPEC

- Available in a 3 pin female standard configuration with Gold plated contacts
- Features a locking ring which is secured with a 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

NC3FX-SPEC

innovative **solutions** | superior **quality**
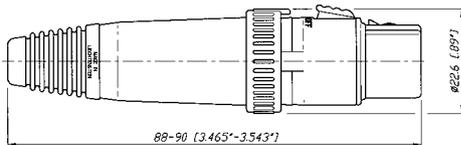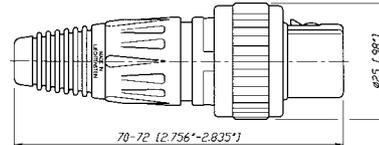
Specification		XX & XX-14 & CRYSTAL	EMC Series	XX-HD Series	XX-HE Series	RX Series	XX Crimp Series	convert-CON Series
Electrical								
Number of contacts		3 - 7 [1]	3	3	3	3 - 7	3	3
Contact resistance	≤ 3 mΩ	•	•	•	•	•	•	•
Insulation resistance - initial:	> 10 GΩ	•	•	•	•	•	•	•
- after damp heat test:	> 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	•	•	•	•	•	•	•
Mechanical								
Lifetime	> 1`000 cycles	•	•	•	•	•	•	•
Insertion / withdrawal force	≤ 20 N	•	•	•	•	•	•	•
Cable O.D. range	3.5 - 8.0 mm	• [2]	•	6.0 - 8.0 mm	•	•	•	•
Max. wire size	3 pole: 2.5 mm² / AWG 14	•	AWG 20	•	•	•	-	•
	4 pole: 1.5 mm² / AWG 16	•	-	-	-	•	-	-
	5, 6, 7 pole: 1.0 mm² / AWG 18	•	-	-	-	•	-	-
Crimp tool: 6.5 mm Hex die (size "E" acc. to IEC 60352-2)		-	-	-	-	-	•	-
Crimp XX:	0.22 - 0.34 mm² / AWG 24 - 22	-	-	-	-	-	•	-
Material								
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)	-	-	-	-	-	-	-
Environmental								
Operating temperature	-30 °C to +80 °C	•	•	•	•	•	•	•
Flammability	UL 94 HB	•	•	•	V-0	•	•	•
Protection class	IP 40	•	•	IP 67	•	•	•	•
Solderability complies with	IEC 68-2-20	•	•	•	•	•	•	•
Manufacturing Standard	IEC 61076-2-103	•	•	•	•	•	•	•

[1] : XX-14, CRYSTAL: 3 pole   [2] : XX-14: Cable O.D. 8.0 – 10.0 mm

Specification		X Series	XCC Series	X-HD Series	FXS Series	FX-SPEC Series
Electrical						
Number of contacts		3 - 7	3	3 - 5	3	3
Contact resistance	≤ 3 mΩ	●	●	●	●	●
Insulation resistance - initial:	> 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	●	●	●	●	●
Mechanical						
Lifetime > 1`000 cycles		●	●	●	●	●
Insertion / withdrawal force	≤ 20 N	●	●	●	●	●
Cable O.D. range	3.5 – 8.0 mm	●	5.4 - 6.2 mm	●	3.5 - 7.0 mm	●
Max. wire size 3 pole:	2.5 mm² / AWG 14	●	●	●	●	●
4 pole:	1.5 mm² / AWG 16	●	-	●	-	●
5, 6, 7 pole:	1.0 mm² / AWG 18	●	-	●	-	-
Crimp tool:	6.5 mm Hex die (size "E" acc. to IEC 60803)	-	●	-	-	-
Crimp XX:	0.22 - 0.34 mm² / AWG 24 - 22	-	-	-	-	-
Material						
Shell	Zinc diecast (ZnAl4Cu1)	●	●	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	●	Au
or Gold	gal 0.2 µm Au hard alloy over 2 µm Ni					
Latch lock	St3K32 (latch) / Ck 67 (spring)	●	●	●	●	●
	Zinc diecast (ZnAl4Cu1)	-	-	-	-	-
Strain-relief clamp	POM	●	●	●	●	●
Bushing	PA / PU	●	●	PU	PU	●
Circumferential ground spring	Bronze (CuSn6), Ni plated	-	●	-	-	-
Crimp ferrule	Brass (CuZn39Pb3), Ni plated	-	●	-	-	-
Coding ring	Polyamide PA 6 15% GR	-	●	-	-	-
Sealing jacket	EPDM	-	-	●	-	-
Securing ring	Brass (CuZn39Pb3)	-	-	-	-	●
Environmental						
Operating temperature	-30 °C to +80 °C	●	●	●	●	●
Flammability	UL 94 HB	●	●	●	●	●
Protection class	IP 40	●	●	IP 65	●	●
Solderability complies with	IEC 68-2-20	●	●	●	●	●
Manufacturing Standard	IEC 61076-2-103	●	●	●	●	●

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Ordering Information for Cable Connectors

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

Accessories and Assembly Tools

Detailed information on page 35 and 40.

*   : Number of Contacts

**   : Nickel or Black

–D[1] : Bulk packed, to be ordered in multiples of 100 pcs.

[2]   : Switchcraft equivalent

Ordering Information for Cable Connectors

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

Accessories and Assembly Tools

Detailed information on page 35 and 40.

* : Number of Contacts

**: Nickel or Black

–D[1]: Bulk packed, to be ordered in multiples of 100 pcs.

[2] : Switchcraft Equivalent

Colored coding ring

Lateral right PCB mount

Locking release tab

Ground contact

A Series

NC3FAH

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

NC5FAV   **NC5FAH**

NC3MAV-0   **NC5MAH**

NC3FAAH   **NC3FAAV-0**
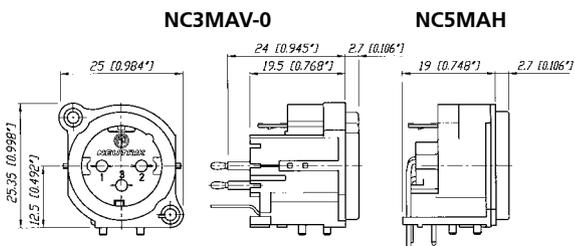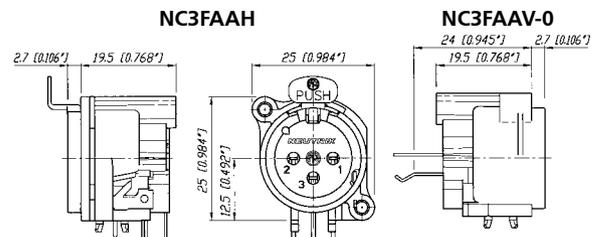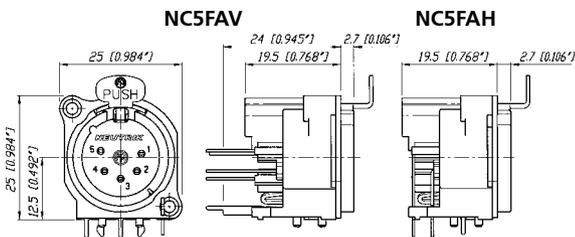
Grounding Options (A / AA / B Series):

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
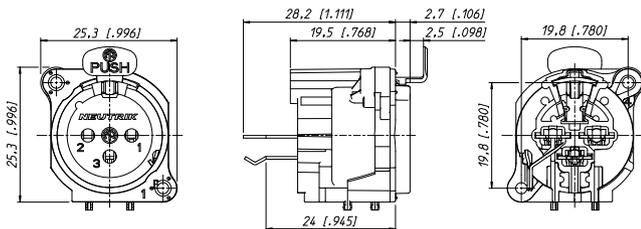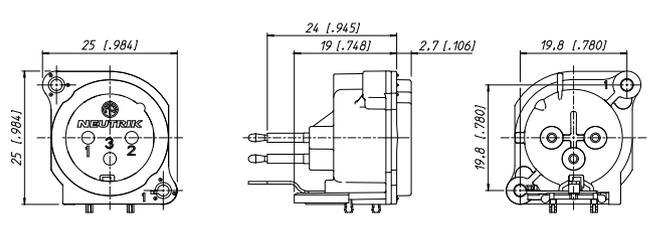

B Series

NC3FBV1

NC3MBV

NC4FBH

NC4MBV

- The B Series XLR receptable offers the same features as our A Series product line with the added feature of a metal ring
- Metal ring on shell (nickel or black) features complete EMC and RF protection
- Female versions available latchless
- Rear mount only
- "Tulip" type female contact
- Plastic housing flammability UL 94V-0
- Fastening with Nickel B-Screw-1-8

NC3FBV1

NC3MBV

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
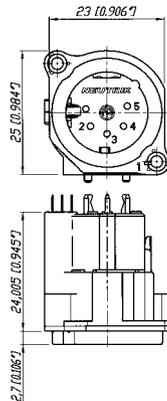• Available in 5 pole, 3 or 4 pole on request

Inserting (Schematic):

NC
NO
MATING CONNECTOR
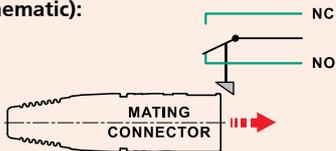
NC5FAV-SW
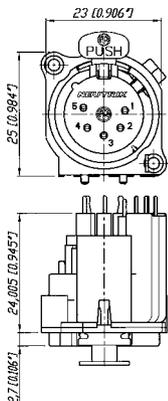
NC5MBV-SW
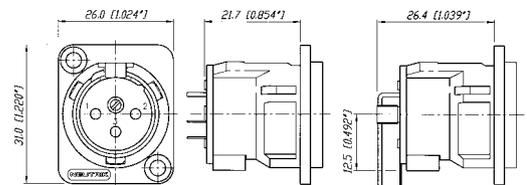

D Series

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
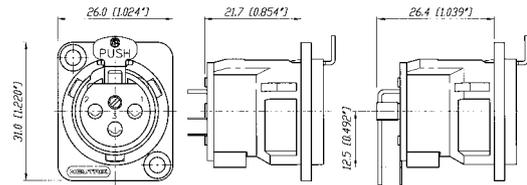
NC3MD-V / NC3MD-H

Locking release tab

Horizontal PCB mount

Ground shielding

White painted housing
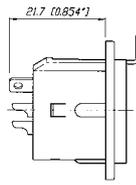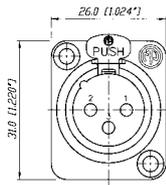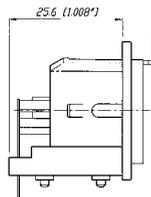
DL Series

NC3FD-L-1

NC7MD-L-B-1

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

DLX Series

NC3FD-LX-HE

NC5MD-LX

- Next generation of the popular DL Series with greater functionality
- All metal housing works in combination with a new duplex ground contact yielding the best RF protection and ground conductivity in a chassis mount XLR
- Male connector's retention bar replaces plastic design with all metal version
- Unique cage type female contacts on 3 pole version for increased conductivity
- Machined male and female contacts on four to seven pin versions
- D-style housing provides installation compatibility with industry standard D mounting dimensions
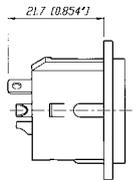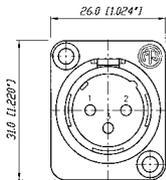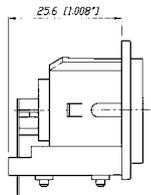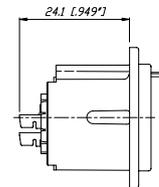
NC3FD-L-1

NC*FDM3-H

NC3MD-L-1

NC*MDM3-H

NC3FD-LX
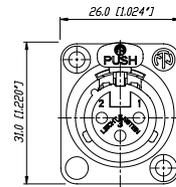
NC*MD-LX

*: 3 - 5 contacts

*: 3 - 7 contacts

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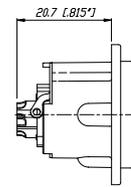
Crimp type contact

Circumferential
ground spring

D L X   C r i m p   S e r i e s

E M C   S e r i e s

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 mm²
• Utilize standard B-type crimp tool (acc. IEC 60352-2)
• Absolute leadfree and solderless connection:
  - RoHs compliance
  - health and eco-friendly
• Fast and easy assembly
• Gas-tight connection offers a constant contact resistance
• Ideal solution for field and on-site termination

• 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 16 – EMC cable connector.
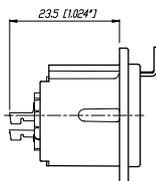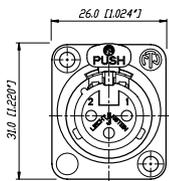
NC3FD-LX-HA   **NC3MD-LX-HA**   **NC3FDX-EMC-SPEC**

26.0 [1.024"]   23.5 [1.024"]   27.8 [1.173"]   19.0 [.75"]   35.0 [1.37"]

31.0 [1.220"]   31.0 [1.22"]   24.0 [.94"]

26.0 [1.02"]   72.0 [2.83"]
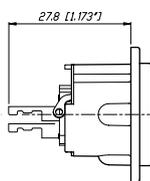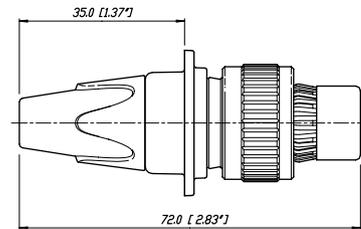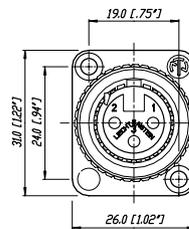
Sealing Gasket

Through hole fastening

M P R - H D   S e r i e s

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
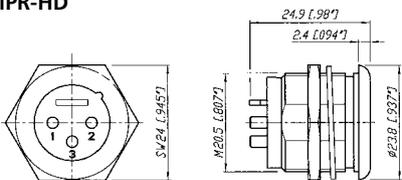
*: 3 - 5 contacts

P   S e r i e s

NC3FP-1

NC6MP-B

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

NC3FP-1
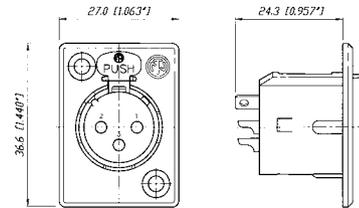
NC3MP
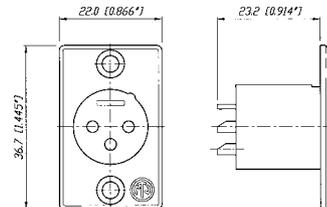
Front end design

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 normalled
- Stereo or mono version

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

NCJ10FI-H

XLR receptacle or 1/4" phone jack
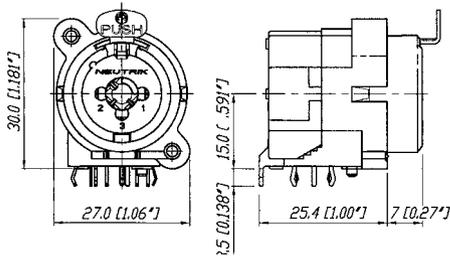
Wiring: Example of NCJ9FI-H
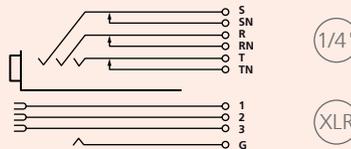
Hologram

Horizontal PCB mount

Vertical PCB mount

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

5.7 [0.224"]   24 [0.945"]   25 [0.984"]

25 [0.984"]   12.5 [0.492"]

NCJ6FA-H

5.7 [0.224"]   24.5 [0.965"]   25 [0.984"]

25 [0.984"]   12.5 [0.492"]
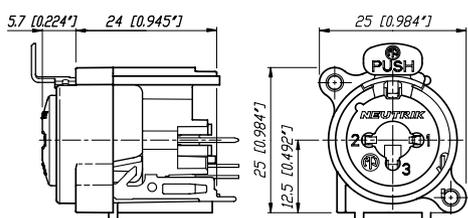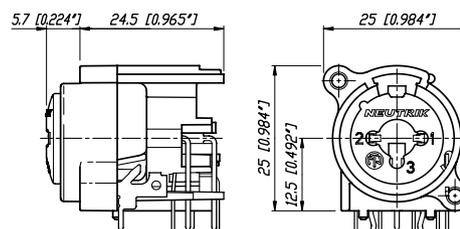
Colour Coded Accessories

Part No. Description	Black 0	Brown 1	Red 2	Orange 3	Yellow 4	Green 5	Blue 6	Violet 7	Grey 8	White 9

XLR Cable Connectors

Part No.	Description
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

XLR Chassis Connectors

Part No.	Description
ACRF-*	Colored ring for female 4 + 5 pole A Series and 5 pole B Series
ACRM-*	Colored ring for male 4 + 5 pole A Series and 5 pole B Series
DSS-*	Lettering plate for D Series

Accessories

XLR Cable Connectors

Part No.	Description
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)

BXX-CR   XXCR   Example

XLR Chassis Connectors

Part No.	Description
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
SCCD-W	Spring-loaded cover to seals D-size chassis connectors, IP65 rated
SFAV	Rubber frame for A / B Series to mount between front plate and rear vertical print

A Screw   B Screw   DBA   FDR1   MFD   Example

NDF   NDM   SCF   SCM

NZP1RU-12   SCDR   Example   SCDX   Example

NEW

SCCD-W   SCDP-*   SFAV   Example

Specification		A Series	AA Series	B Series	D Series	DL / DLX Series	DLX Crimp	DLX-HE Series
Electrical								
Number of contacts		3 - 5	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 mm² / 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 steel, treated	●	●	●	●	●	●	●
Environmental								
Operating temperature	-30 °C to +80 °C	●	●	●	●	●	●	●
Protection class	IP 40	●	●	●	●	●	●	●
Flammability	UL 94 HB	●	●	-	●	●	●	-
	UL 94 V-0	3 pole	-	●	-	-	-	●
Solderability complies with	IEC 68-2-20	●	●	●	●	●	●	●
Mounting screw		A	A	1)	-	-	-	-
Color coding		ACR* 2)	-	ACR* 2)	DSS	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, 5 pole B series

Specification		MPR-HD Series	P Series	Combo Series	A Combo
E l e c t r i c a l					
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	●	●	>500 mΩ	●
Dielectric strength	1500 V dc	●	●	●	●
Rated voltage	50 V ac	●	●	●	●
Rated current per contact					
3 pole:	6 A	16 A	16 A	-	3 A
4 pole:	6 A	10 A	10 A	-	-
5, 6 pole:	3 A	7.5 A	7.5 A	-	-
7 pole:	5 A	-	●	-	-
Combo XLR + Jack contact	7.5 A	-	-	●	●
Capacitance between contacts					
3 pole:	≤ 7 pF	≤ 4 pF	≤ 4 pF	≤ 2 pF	≤ 2 pF
4, 5, 6 pole:	≤ 7 pF	●	●	-	-
7 pole:	≤ 9 pF	-	●	-	-
M e c h a n i c a l					
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
M a t e r i a l					
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	-	●	●	●
E n v i r o n m e n t a l					
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
A Series						
NC*FAH-D		Black Plastic	Gold	-	●1)	●1)
	NC*MAH	Black Plastic	Gold	●	●	●
NC*FAH-0		Black Plastic	Gold	●	●1)	●1)
	NC3MAH-0	Black Plastic	Gold	●	-	-
NC3FAHL-0		Black Plastic	Gold	●	-	-
NC3FAHR-0		Black Plastic	Gold	●	-	-
NC3FAH1-D		Black Plastic	Gold	●	-	-
NC3FAH1-0		Black Plastic	Gold	●	-	-
NC3FAHL1-D		Black Plastic	Gold	●	-	-
	NC3MAHL	Black Plastic	Gold	●	-	-
NC3FAHL1-0		Black Plastic	Gold	●	-	-
NC3FAHR1-D		Black Plastic	Gold	●	-	-
	NC3MAHR	Black Plastic	Gold	●	-	-
NC3FAHR1-0		Black Plastic	Gold	●	-	-
NC3FAH2-D		Black Plastic	Gold	●	-	-
NC3FAH2-0		Black Plastic	Gold	●	-	-
NC3FAHR2-D		Black Plastic	Gold	●	-	-
NC3FAHR2-0		Black Plastic	Gold	●	-	-
NC*FAV-D		Black Plastic	Gold	-	●1)	●1)
	NC*MAV	Black Plastic	Gold	●	●	●
NC*FAV-0		Black Plastic	Gold	●	●1)	●1)
	NC3MAV-0	Black Plastic	Gold	●	-	-
NC3FAV1-D		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	-	-	●

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

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

AA Series comes with Push Latch assembled.

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

1): Grounding Option "2"
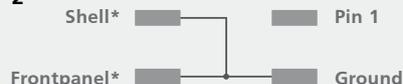0: Retention Spring

Grounding Options
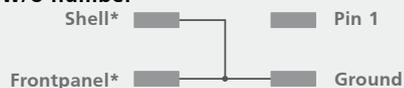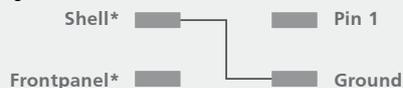
A / AA Series and B Series

Female

"1"

Shell* — Pin 1
Frontpanel*

"2"

Shell* — Pin 1
Frontpanel* — Ground

Male

w/o number

Shell* — Pin 1
Frontpanel* — Ground

"0"

Shell* — Pin 1
Frontpanel* — Ground

"1"

Shell* — Pin 1
Frontpanel*
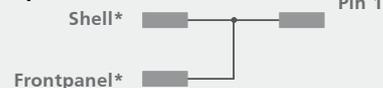
Shell* : Contact to shell of mating connector
Frontpanel* : Connection to frontpanel by fastening screw

innovative **solutions** | superior **quality**

Ordering Information for Receptacles

B Series

Female	Male	Flange	Contact	3 pole	4 pole	5 pole
NC*FBH		Metal	Gold	-	●	●
NC5FBH-B	NC5MBH-B	Black Metal	Gold	-	-	●
	NC*MBH	Metal	Gold	●	●	●
	NC3MBH-B	Black Metal	Gold	●	-	-
	NC3MBH-0	Metal	Gold	●	-	-
NC3FBH1	NC3MBH-1	Metal	Gold	●	-	-
NC3FBH1-B		Black Metal	Gold	●	-	-
NC3FBHL1		Metal	Gold	●	-	-
	NC3MBHL	Metal	Gold	●	-	-
	NC3MBHL-B	Black Metal	Gold	●	-	-
NC3FBH2		Metal	Gold	●	-	-
NC3FBH2-B		Black Metal	Gold	●	-	-
	NC3MBHR	Metal	Gold	●	-	-
	NC3MBHR-B	Black Metal	Gold	●	-	-
NC3FBH1-E	NC3MBV-E	Metal	Gold	●	-	-
NC3FBH2-E		Metal	Gold	●	-	-
	NC3MBH-E	Metal	Gold	●	-	-

B Series

Female	Male	Flange	Contact	3 pole	4 pole	5 pole
	NC*MBV	Metal	Gold	●	●	●
	NC*MBV-B	Black Metal	Gold	●	-	●
NC*FBV		Metal	Gold	-	●	●
NC5FBV-B	NC5MBV-B	Black Metal	Gold	-	-	●
NC3FBV1		Metal	Gold	●	-	-
NC3FBV1-B		Black Metal	Gold	●	-	-
NC3FBV2		Metal	Gold	●	-	-
NC3FBV2-B		Black Metal	Gold	●	-	-
	NC3MBV-0	Metal	Gold	●	-	-
	NC3MBV-1	Metal	Gold	●	-	-
NC5FBV-SW	NC5MBV-SW	Metal	Gold	-	-	●

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

: B Series rear mount only

D Series

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

DL Series

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

DLX Series

Female	Male	Shell	Contact	3 pole	4 pole	5 pole	6 pole	7 pole
NC*FD-LX	NC*MD-LX	Nickel	Silver	●	●	●	●	●
NC*FD-LX-B	NC*MD-LX-B	Black Cr	Gold	●	●	●	●	●
NC*FD-LX-BAG	NC*MD-LX-BAG	Black Cr	Silver	●	●	●	●	-
NC*FD-LX-M3	NC*MD-LX-M3	Nickel	Silver	●	●	●	-	-
NC3FD-LX-HE	NC3MD-LX-HE	Velour Cr	Gold	●	-	-	-	-
NC3FD-LX-WT	NC3MD-LX-WT	White	Silver	●	-	-	-	-
NC6FSD-LX	NC6MSD-LX	Nickel	Silver	-	-	-	●	-

DLX Crimp Series

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

Ordering Information for Receptacles

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

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

Contact #

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

Panel Cutouts
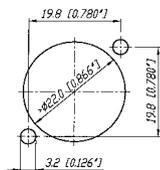
A / AA / B Series	D / DL / DLX Series	P Series Female	P Series Male	Combo	MPR Series
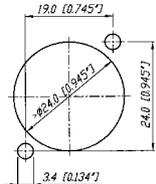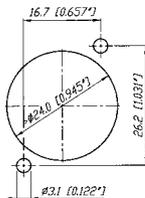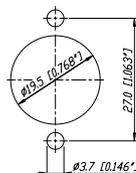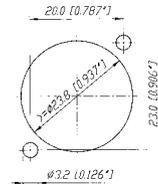
Assembly Tools

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

C o n t e n t   P a g e

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.
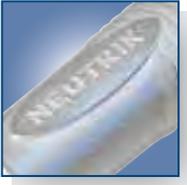
Neutrik brand

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

NP3X

NP2RX

15.88 mm jack pitch:

innovative **solutions** | superior **quality**
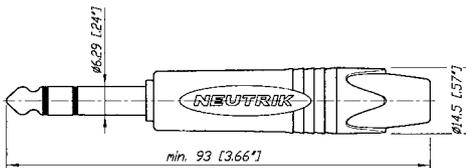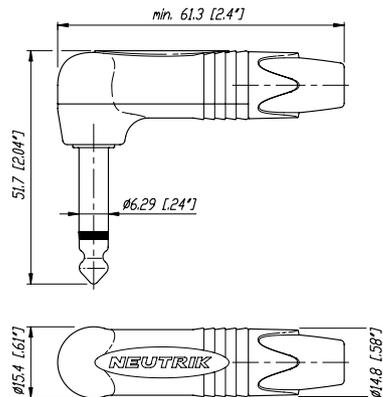
crystalCON

Crystal stones

jumboPLUG

Robust metal
housing

Big bushing for
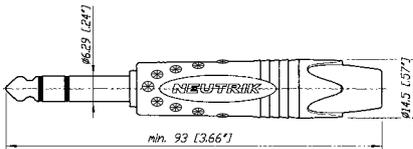cable up to 10 mm

crystalCON

NP2X-B-CRYSTAL

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

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

NP2X-B-CRYSTAL

NP3XL
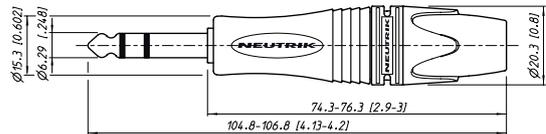
Moving magnet

Right angle plug

Attention!

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

*silent*PLUG

## 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.
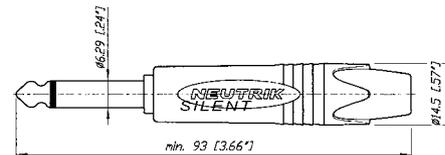
Detail Silent Switch:

Hermetically sealed

Gold plated contacts

REED SWITCH

Moving magnet
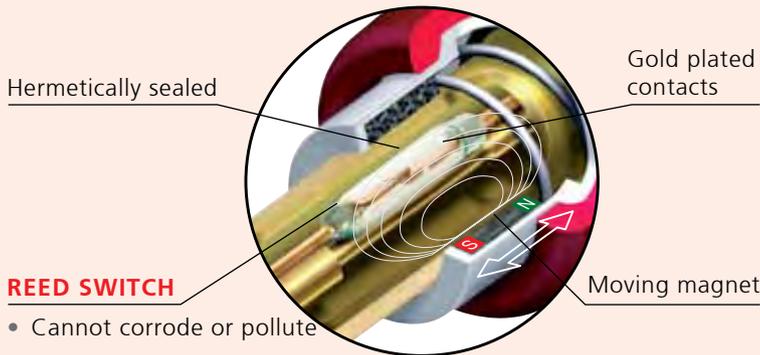
• Cannot corrode or pollute
• No wear, constant contact resistance
• Decoupled from switching mechanism

• 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

Ø6.29 [.24"]

Ø14.5 [.57"]

NEUTRIK
SILENT

min. 93 [3.66"]

innovative **solutions** | superior **quality**

Rotary knob to
change the timbre

Right angle plug

timbrePLUG

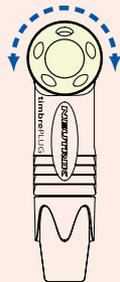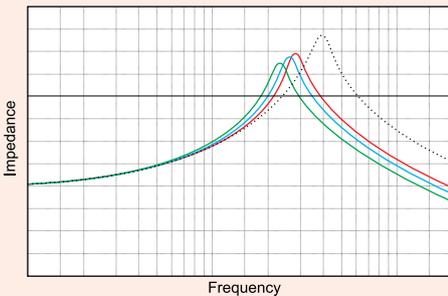## 1/4" Guitar Plug - timbrePLUG

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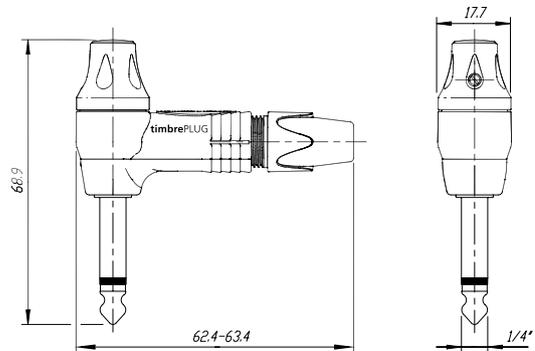
- Standard timbre of your cable plus 3 additional sound characteristics
- Slim right-angle plug with industry proven and reliable chuck type cable strain relief
- Sleek attractive design for convenient handling
- Gold plug finger, precision machined one piece contacts

timbrePLUG - charakteristic

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

Impedance

Frequency

NP2RX-TIMBRE

17.7

68.9

62.4–63.4

1/4"

Rotary knob to
change the timbre

Right angle plug

Moving magnet

Attention!

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

ultimatePLUG

1/4" Guitar Plug - ultimatePLUG

NEW

NP2RX-ULTIMATE

- 2 in 1 – combines timbrePLUG & silentPLUG
- Change of timbre and avoiding of pop and squeals are combined in plug
- The ultimate guitar plug
- 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

Details of **silent**SWITCH on page 46 and **timbre**PLUG charakteristics on page 47.

NP2RX-TIMBRE

ultimatePLUG

68.9

62.4–63.4

17.7

1/4"
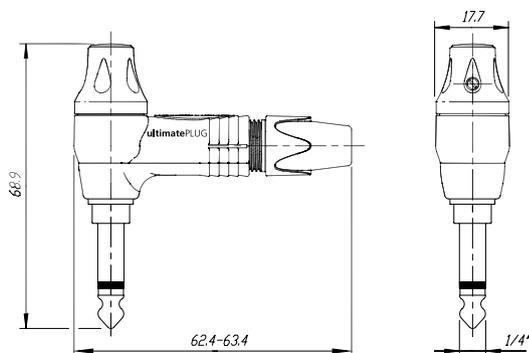
The standard of professional
phone plugs

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
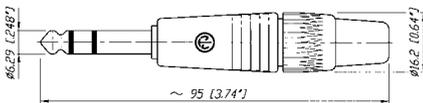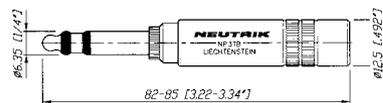
MIL/B-Gauge Type Plugs

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

3.5 mm Right-Angle Stereo Plug

NP3TT-1-B

NP3TT-2

NTP3RC

NTP3RC-B

- 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
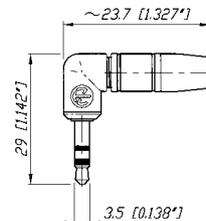- Solder termination for T + R, crimp termination for sleeve contact

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

NP3TT-1

NEUTRIK
NP3TT-1

4.4 [0.173"] Ø7.6 [0.30"] 66 [2.60"]

NP3TT-P

NEUTRIK
NP3TT-P

4.4 [0.173"] Ø7.6 [0.30"] 66 [2.60"]

NTP3RC

~23.7 [1.327"] 29 [1.142"] 3.5 [0.138"]

innovative **solutions** | superior **quality**

Specifications		1/4" Phone Plugs SILENT & CRYSTAL timbrePLUG & ultimatePLUG jumboPLUG	MIL / B-Gauge Type	0.173" Bantam Type	3.5 mm Stereo Plugs

Electrical

Rated current:	depends on mating connector	●	●	●	●
Contact resistance:	depends on mating connector	●	●	●	●
Insulation resistance: - initial:	> 2 GΩ	●	●	●	●
- after damp heat test:	≥ 1 GΩ	●	●	●	●
Dielectric strength	1 kV dc	●	●	●	●

Mechanical

Lifetime > 1'000 mating cycles		●	●	●	●
Wiring:	solder terminals	●	●	●	●
Wire size	mm²	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	Brass	Brass (CuZn39Pb3)	Zinc diecast
		(ZnAl4Cu1) Ni or	(CuZn39Pb3)	2 µm Ni (Su) plated	(ZnAl4Cu1) Ni or
		black Cr plated	black or red coated	PA 6 30 % GR	black Cr plated
Insulation:	Polyamide (PA 6.6 30 % GR)	●	●	●	PA 6.6 15% GR
Contacts:	Brass (CuZn39Pb3)	●	●	● (Tip: CuSn6)	●
	2 µm Ni (Su) or Au plated	●	● or Brass	2 µm TRIBOR® (NiP-AuCo)	●
Chuck:		POM	POM	-	POM
Bushing:		POM + PU	-	-	CuZn39Pb3 + PU
					(Ni or black Chrome)
Rubber shell-overlay:		EPDM	-	-	-

Environmental

Temperature range:	-20 °C to +65 °C	●	●	●	●
Solderability complies with	IEC 68-2-20	●	●	●	●

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
ultimatePLUG - special Guitar Plug					
NP2RX-ULTIMATE		Black Cr	Gold	IEC 60603-11 / EIA RS-453	Right angle mono plug, timbre switch, silent switch
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
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

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Part Number	Shell	Contacts	Standards Compatibility	Remarks
MIL/B-gauge Type Phone Plugs				
NP3TB-B	Black	Nickel	B-GAUGE BP0316	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
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.	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

innovative **solutions** | superior **quality**

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

Ø19.0 [.748"]

79-81 [3.110-3.189"]
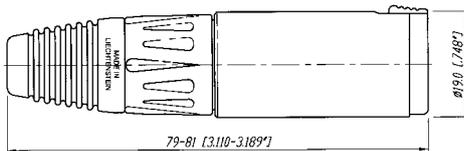
Release latch

Standard D mounting dimensions

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)

NJ3FP6C

Ø3.6 [.142"]
31.0 [1.220"]
26.0 [1.024"]
Ø24.0 [.945"]
27.5 [1.083"]
8.5 [.335"]

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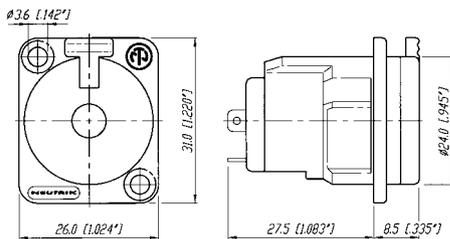
Snapping cap   Solder tags

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
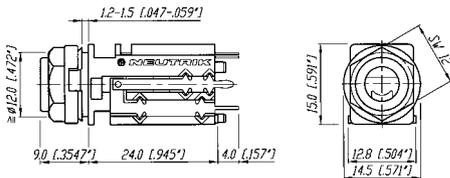
*: 2, 3, 5, 6

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
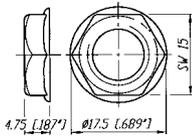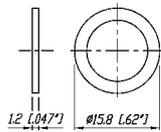- Mounting hardware for half threaded nose must be ordered separatly
- Fascia appearance in plastic or chrome
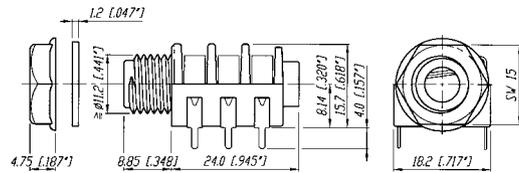
NMJ6HHD2
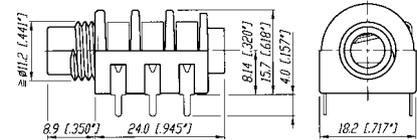
NMJ4HC-S
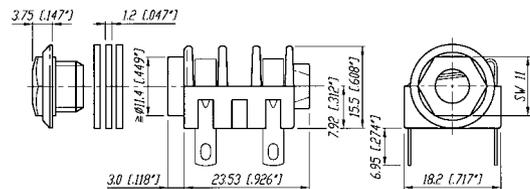
NRJ-NUT-B

NRJ-WB (washer)

NMJ6HFD2

Half threaded nose

Chrome nose

Chassis ground contact

Gold plated contact

Slim Jacks

NRJ4HH-1

NRJ6HF-1

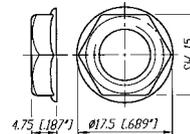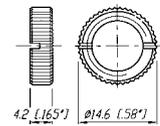NRJ6HM-1

NRJ-NUT-B

NRJ-NUT-MK

NRJ-NUT-MS

NRJ-NUT-MN
(Metal Nose only)

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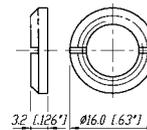- Mounting nuts in different versions available – must be ordered separately

NRJ-NUT-B

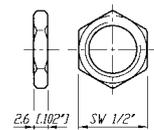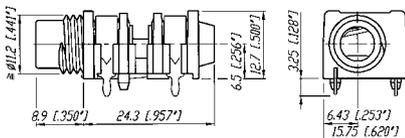4.75 [.187"] Ø17.5 [.689"] SW 15

NRJ-NUT-MK

4.2 [.165"] Ø14.6 [.58"]

NRJ-NUT-MS

3.2 [.126"] Ø16.0 [.63"]

NRJ-NUT-MN

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

2.6 [.102"] SW 1/2"

NRJ4HH-1

≧Ø11.2 [.441"] 6.5 [.256"] 12.7 [.500"] 3.25 [.128"]
8.9 [.350"] 24.3 [.957"]
6.43 [.253"]
15.75 [.620"]

NRJ4HF-1

≧Ø11.2 [.441"] 6.5 [.256"] 12.7 [.500"] 3.25 [.128"]
8.9 [.350"] 24.3 [.957"]
6.43 [.253"]
15.75 [.620"]

NRJ6HM-1

≧Ø10.0 [.394"] 6.5 [.256"] 12.7 [.500"]
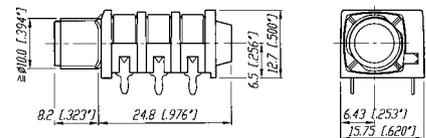8.2 [.323"] 24.8 [.976"]
6.43 [.253"]
15.75 [.620"]
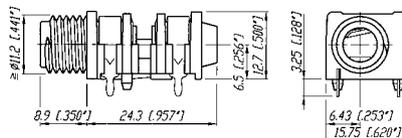
Plane nose

Quick fix nose

Quick fix nut

Fully threaded nose

Stacking Jacks

NSJ8HC

NSJ12HL

NSJ12HH-1

NSJ12HF-1

- Mono and stereo dual slim jack socket for PCB mounting with switch contacts
- Mounting method by either two quick fix or threaded nuts or one single center screw

- Highest board packing density as two jacks are in a single footprint, fit in 1 RU
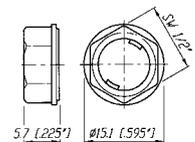- Version in fully and half threaded nose, full nose, quick-fit and plane
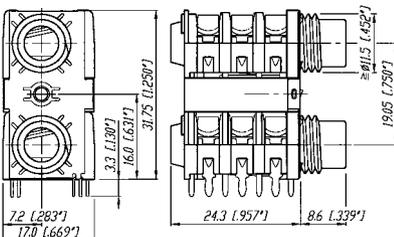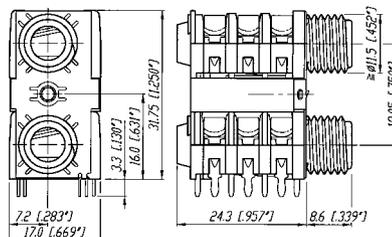
NSJ8HC
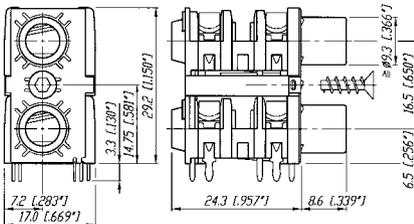
NSJ12HL
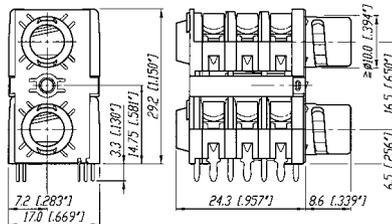
NSJ-NUT-B
(Quick fix nut)

NSJ12HH-1

NSJ12HF-1

NRJ-NUT-B
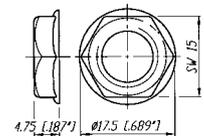
Specifications		Vertical Jack	Locking Cable & Chassis Jack	M Jack	Slim Jack	Stacking Jack
Electrical						
Contact resistance	- initial	< 10 mΩ	< 6 mΩ	< 15 mΩ	< 10 mΩ	-
	- Top row	-	-	-	-	< 15 mΩ
	- Bottom row	-	-	-	-	< 10 mΩ
Switch contact resistance	- for silver	-	-	< 30 mΩ	< 25 mΩ	-
	- for gold	< 15 mΩ	-	-	< 10 mΩ	-
	- Top row	-	-	-	-	< 15 mΩ
	- Bottom row	-	-	-	-	< 10 mΩ
Insulation resistance	≥ 1GΩ @ 500 V dc	●	●	●	●	●
Dielectric strength	1 kV dc	●	●	●	●	●
Rated current		3 A	10 A	3 A	3 A	3 A
Rated switch contact current		0.25 A @ 12 V	N/A	0.5 A @ 50 V	0.5 A @ 50 V	0.5 A @ 50 V
Mechanical						
Lifetime	> 10`000 cycles	●	●	●	●	●
Insertion / withdrawal force		< 10 N / > 8 N	< 20 N / < 20N	< 20 N / > 10 N	< 20 N / > 10 N	< 20 N / > 10 N
Cap opening torque		25 N cm / 9.84 N in	-	-	-	-
Locking force		-	> 80 N	-	-	-
Wire size		-	1 mm² / 18 AWG [①]	-	-	-
Cable O.D. (FC6 only)		-	3.5 - 8.0 mm	-	-	-
Panel thickness		1.2 - 1.5 mm [0.047 - 0.06"]	-	-	-	-
	- Full nose type	-	-	< 3.0 mm	< 3.0 mm	-
	- Half nose type	-	-	< 1.0 mm	< 1.0 mm	-
	- Chrome nose	-	-	< 4.7 mm	-	-
	- NSJ*HL	-	-	-	-	1.0 - 1.6 mm
	- NSJ*HC	-	-	-	-	> 1.0 mm
Material						
Shell / Handle		PA 6.6 30% GR	ZnAl4Cu1 Ni 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	●	●	●	●	●

①... max. for soldering tag

Environmental						
Solderability complies with	IEC 68-2-20	●	●	●	●	●
Standard Compatibility						
EIA RS 453 + IEC 60603-11	NJ*FD	●	●	●	●	
B-GAUGE BPO 316, MIL-J-641/3	NJ*TB	-	-	-	-	

Circuits:
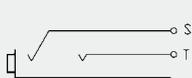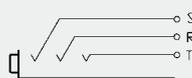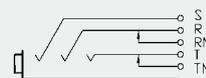
Mono unswitched	Mono switched	Stereo unswitched	2x switching (normalling) Stereo	3x switching (normalling) Stereo
N*J2**	N*J4**	N*J3**	N*J5**	N*J6**

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

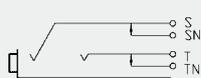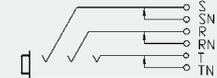| Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks

Slim Jack

PCB Mount Sockets - Switched

Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
NRJ3HF-1	Black/Plastic	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Stereo, 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

Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
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	-	-	-	Hexogonal metal nut (for metal nose jack only)

Stacking Jack

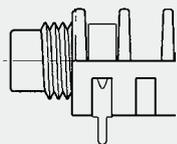| Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
NSJ8HL	Polyamid PA 6.6 GR	Silver	Horizontal PCB mount	IEC 60603-11/EIA RS 453	Mono, quick fix nose
NSJ12HL	●	●	●	●	Stereo, quick fix nose
NSJ8HC	●	●	●	●	Mono, full nose
NSJ12HC	●	●	●	●	Stereo, full nose
NSJ12HF-1	●	●	●	●	Full threaded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

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

Ordering Key:

NRJ*H		NEUTRIK Jack Horizontal		*	number of contacts:
	H	half threaded nose		2	mono unswitched
	F	full threaded nose		4	mono switched
	L	quick fix nose		6	stereo switched
	M	metal threaded nose		8	mono stacking jack
	C	plane nose		12	stereo stacking jack
	-1	chassis ground contact			
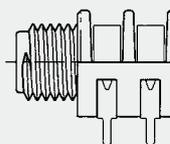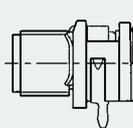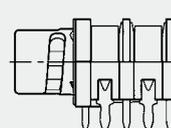
Nose: -H   -F   -M   -L   -C
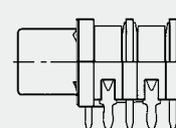
Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks

1/4" Locking Jack

Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
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
NJ3FP6P-BAG	Black/Plastic	●	●	●	Plastic Chassis

Accessories

DSS   SCDR   NDJ (Example)   NZP1RU-12   SCDX (Example)   SCCD-W (NEW)   SCDP-*

NZP1RU-8	Panel 1RU housing with 8 D-shape cutouts	SCDX	Hinged cover seals locking 1/4 chassis jack, IP42 rated
NZP1RU-12	Panel 1RU housing with 12 D-shape cutouts	SCCD-W	Spring-loaded cover to seals locking 1/4 chassis jack, IP65
DSS-*	Lettering plate, colored plastic	SCDP-*	D-Size sealing gaskets, color coding
SCDR	Rear end protection cover for locking 1/4"chassis jack		
NDJ	dummyPLUG for 1/4" chassis jack		(*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)

1/4" Vertical Jack

Part Number	Shell	Contacts	Terminations	Standards Compatibility	Remarks
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

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

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

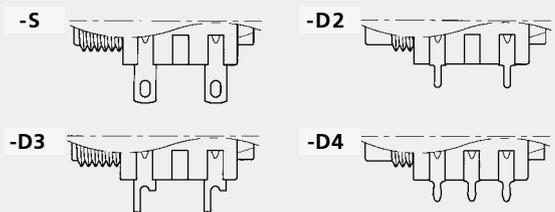### Ordering Key:

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

-S   -D2   -D3   -D4
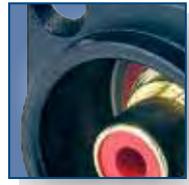
Gold plated contacts

Soft-touch surface

Phono socket

Profi® RCA Series


NF2C-B2

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

Phono Socket

NF2D-4

NF2D-B-6

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

NF2C-B2

51-54 [2.0-2.13"]   ⌀13 [.52"]

NF2D-*️

26.0 [1.24"]   28.3 [1.12"]   32 [1.26"]
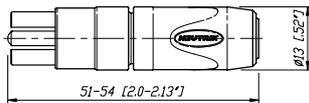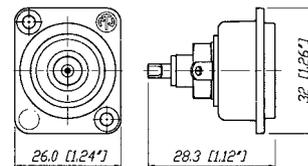
*: available in 9 colors see page 63

innovative **solutions** | superior **quality**

Specification		Profi®	Phono Socket

E l e c t r i c a l

		Profi®	Phono Socket
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

M e c h a n i c a l

		Profi®	Phono Socket
Life time (mating cycles)	> 2000	●	●
Cable O.D. range	3.0 – 7.3 mm	●	-
Wiring	soldering	●	●
Max. wire size	2.5 m² / 14 AWG	●	-
Cable anchoring	Neutrik® chuck type strain relief	●	-

M a t e r i a l

		Profi®	Phono Socket
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)	●	-

E n v i r o n m e n t

		Profi®	Phono Socket
Temperature range	-30 °C to +80 °C	●	●
Protection class	IP 40	●	●
Flammability	UL 94 HB	●	●
Solderability	complies with IEC 68-2-20	●	●

O r d e r i n g   I n f o r m a t i o n

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

A c c e s s o r i e s

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
SCCD-W	Spring-loaded cover to seals D-size chassis connectors, IP 65 rated

plug2PLUG
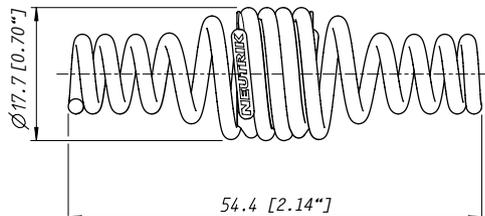
Easy housing

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

Ø17.7 [0.70"]

54.4 [2.14"]

Ordering Information

plug2PLUG

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

Loudspeaker Connectors

Content   Page

speakON

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.

NEUTRIK®, opticalCON®**, neutri**CON®**, mini**CON®**, nano**CON®**, power**CON®**, Profi®, speak**ON®**, silent**PLUG®**, crystal**CON®**, ether**CON®**, rear**TWIST®**, XIRIUM®, DIWA®** are registered trademarks of Neutrik AG.**

Integrated Design
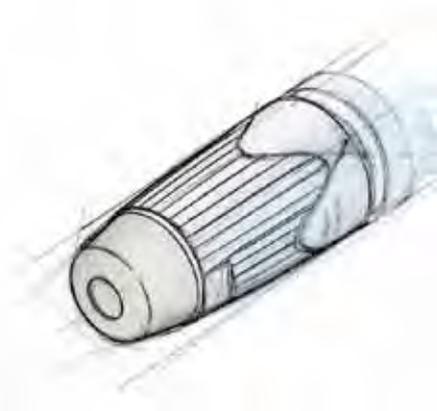
One of Neutrik's goals is to create products that are easily distinguished from other manufacturers. We have successfully achieved this in our engineering efforts as well as the patent and trademark protection granted for our unique products. To further establish a clear difference between Neutrik and 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
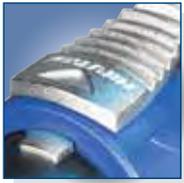
Quick lock

Chuck type strain relief

Right angle conversion

## speakON® SPX Series 2 & 4 Pole Cable Connector

NEW

NL2FX

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
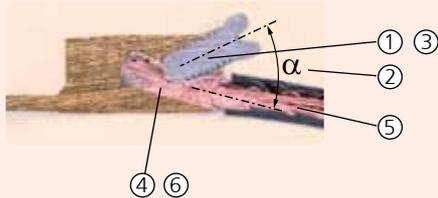- Integrated design guarantees "Made by NEUTRIK®"

NL4FX

NL4FRX

innovative **solutions** | superior **quality**
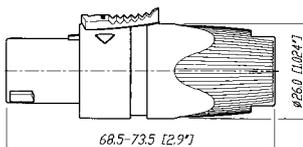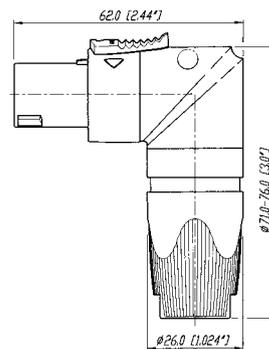
D e s i g n   C r i t e r i a

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.
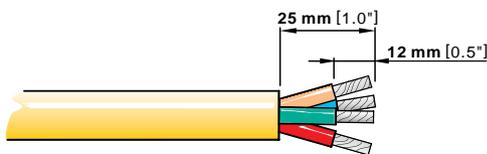
① Easy and extremely precise locking system "Quick Lock"
② Improved grip on latch
③ 1 piece strain relief, chuck for 7 to 14.5 mm cable O.D., with accessory NLRR 5-8 mm
④ Color coding possible
⑤ Integrated design guaranties "Made by NEUTRIK®"

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

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

A s s e m b l y

Prepare cable as shown.

25 mm [1.0"]
12 mm [0.5"]

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.

Glass reinforced housing

Quick lock

## speakON® FC Cable Connector Series

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
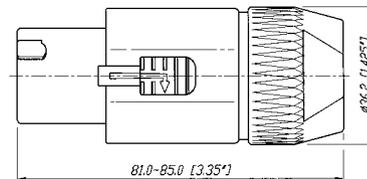- 4 pole in new design with more ergonomic latch

Keying:

NL2MP

NL4MP

NL2FX

NL4FC

NL4FC

Ø25.8 [1.018"]

69-73 [2.72-2.88"]

NL8FC

Ø36.2 [1.425"]

81.0~85.0 [3.35"]
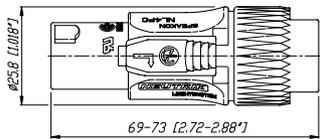
1/4" Jack adapter

Extention coupler

speakON® Adapter

NA4LJX

NL4MMX

NL8MM

NL4MMX:

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

Secure Lock!

NL4MMX + NL4FX:

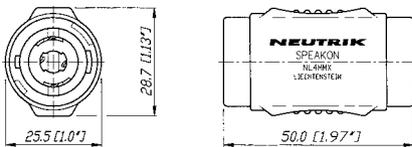(locked on the cable)

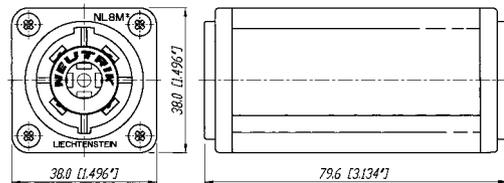Changes gender to male when permanently locked on the cable.

NA4LJX

Ø 6.35 [1/4"]
Ø 26.0 [1.024"]
78.0 [3.07"]

NL4MM

28.7 [1.13"]
25.5 [1.0"]
50.0 [1.97"]

NL8MM
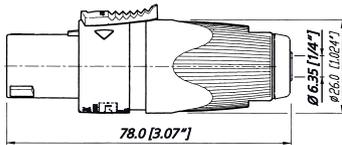
NL8M
38.0 [1.496"]
38.0 [1.496"]
79.6 [3.134"]

Reinforced locking area

Nickel housing

3/16" flat tabs

Vertical PCB mount

speakON® Chassis Connector

NL2MP

NL4MD-H-1

NL4MD-H-3

NL4MPR

NL8MPR

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

NL4MD-V

NL4MD-H

NL4MP

NL4MPR

NL8MPR

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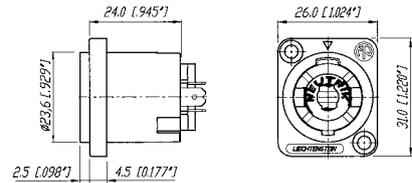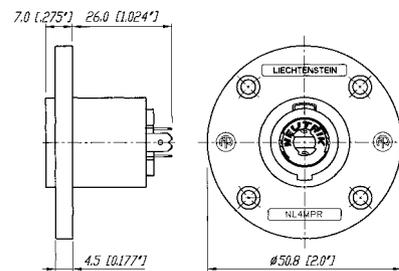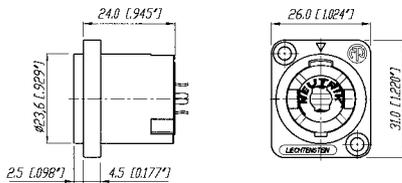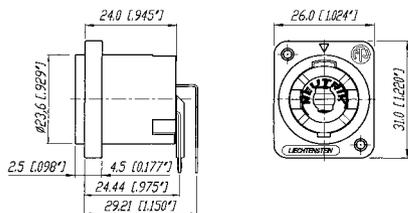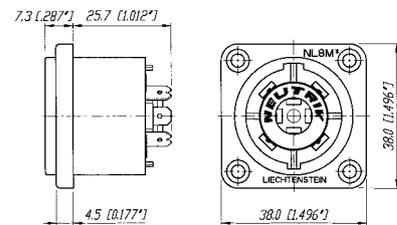
Locking key

PCB solder pins

speakON® Combo

NLJ2MD-V

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

Combines a speakON® and 1/4" Phone Jack – one for two

NLJ2MD-V
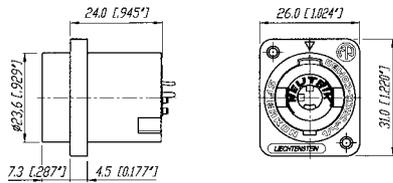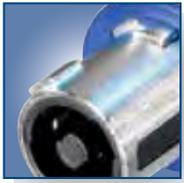
Reinforced locking   Latch lock   XL-solder contacts   Protected latch

c $\mathbf{\mathcal{R}}$U us

speakON® STX Series Cable Connectors

NEW

NLT4FX-BAG   NLT4MX   NLT8FX   NLT8MX-BAG

• 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 6 mm² (AWG 10) 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 garanties "Made by NEUTRIK®"
⑦ X-large solder contacts for up to 6 mm² (AWG 10) wires

NLT4MX   **NLT8FX**

ø26.0 [1.024"]   82.5 [3.246"]

ø35.0 [1.378"]   102-106 [4.173"]

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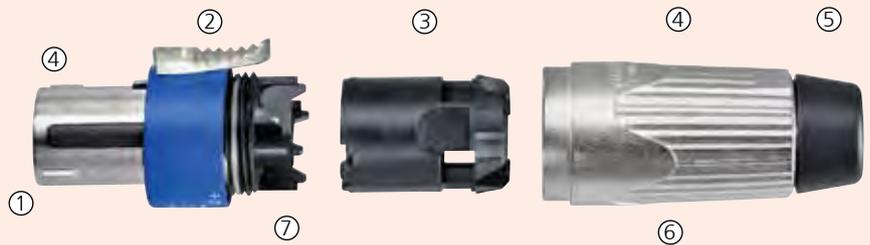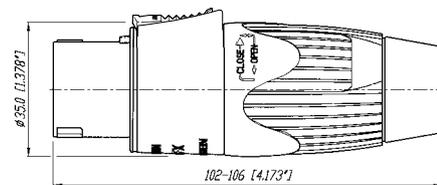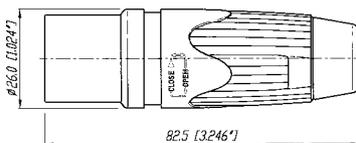
Robust metal
housing

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

8.0 [0.315"]   33.7 [1.327"]

30.0 [1.496"]

NLT4MP

4.5 [0.177"]

38.0 [1.496"]

NLT4FP

11.1 [0.436"]   40.7 [1.602"]

38.0 [1.496"]

PUSH   NLT4FP

4.5 [0.177"]

38.0 [1.496"]

NLT8MP

7.3 [.287"]   29.2 [1.150"]

NL8M*

38.0 [1.496"]

4.5 [0.177"]

38.0 [1.496"]
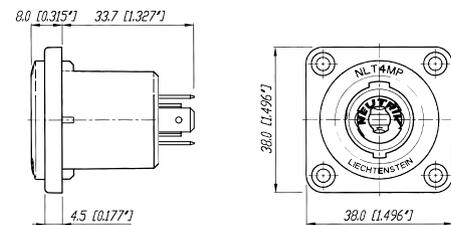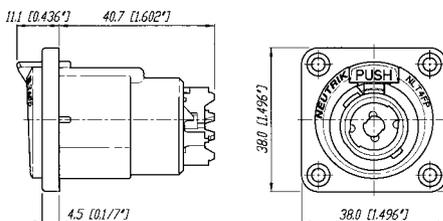
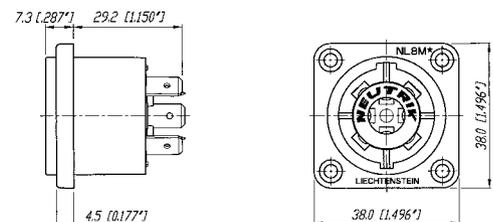| Specification		SPX Series Cable Con.	STX Series Cable Con.	speakON FC Cable Con	speakON Chassis + Combo	Adapter	STX Series Chassis
Electrical							
Number of contacts		2 + 4	4 + 8	4 + 8	2, 4, 8	2, 4, 8	4 + 8
Rated current per contact	40 A rms continuous	●	●	30 A	30 A**	15 A	●
CSA approved rating	25 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 mm² (AWG 12)	-	4 mm² (AWG 12)	● (ST)	-	-
	soldering	6 mm² (AWG 10)	6 mm² (AWG 10)	4 mm² (AWG 12)	●	-	●
	flat tabs for 3/16" FASTON® (4.8 x 0.5 mm)	-	-	-	●	-	-
	flat tabs for 1/4" FASTON® (6.3 x 0.8 mm)	-	-	-	● (UC)	-	●
	PCB-version	-	-	-	●	-	●
Insertion / withdrawal force	Combo Jack: ≤ 20 N / > 10 N	-	-	-	●	-	-
Cable retention force	≥ 220 N*	●	●	●	-	-	-
Material							
Housing	Polyamide PA 6 30% GR	-	-	●	●	●	-
	PBTP 20% GR	●	-	-	-	-	-
	Zinc diecast (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

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Ordering Information Cable Connectors

SPX Series

NL2FX	2 pole	Cable connector with chuck and blue bushing, intermates with 4 pole chassis connector and makes contact with +1/-1
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

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-BAG	8 pole	Coupler to extend two 8-pole cables, black-chrome metal housing, chuck and bushing

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
NLT8MX-BAG	8 pole	Male cable connector, black-chrome metal housing, chuck and bushing

Accessories

LCR-*	LRX	NLRR	BSL-*	BSL-WR

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-angel version without removing the cable from the insert.
NLRR	Strain relief reduction ring for NL4FX for thin loudspeaker cables with an O.D. of 5 to 8 mm

FC Series

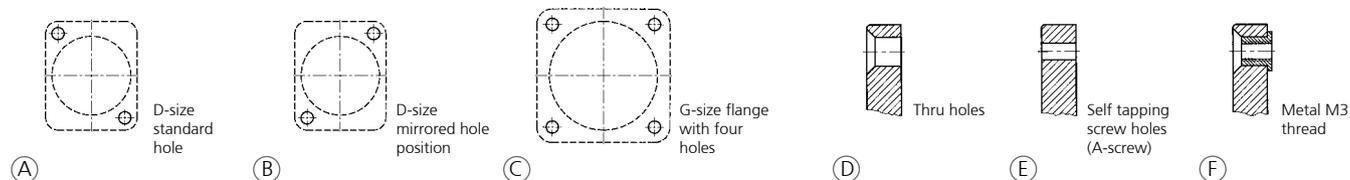|	
BSL-*	Colored bushing for NL4FC
BSL-WR	Weather resistant dripboot

*: 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:

D-size standard hole — Ⓐ

D-size mirrored hole position — Ⓑ

G-size flange with four holes — Ⓒ

Thru holes — Ⓓ

Self tapping screw holes (A-screw) — Ⓔ

Metal M3 thread — Ⓕ

	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	
NLT4FP-V-BAG	4	square G-size flange	C	D	black chrome	vertical PCB	
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*	
NLT8FP-BAG	8	square G-size flange	C	D	black chrome	solder contacts	

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

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Ordering Information Chassis Connectors

	Pole	Flange size	Flange layout	Hole layout	Color	Wiring	Remarks
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	

Accessories

A-Screw-1-8	NLFASTON	MFD	NDL	SCL	SCDR	SCDX

NEW

SCCD-W	SCDP-*	SCNLT Example: SCNLT + NL4MP

NZP1RU-12

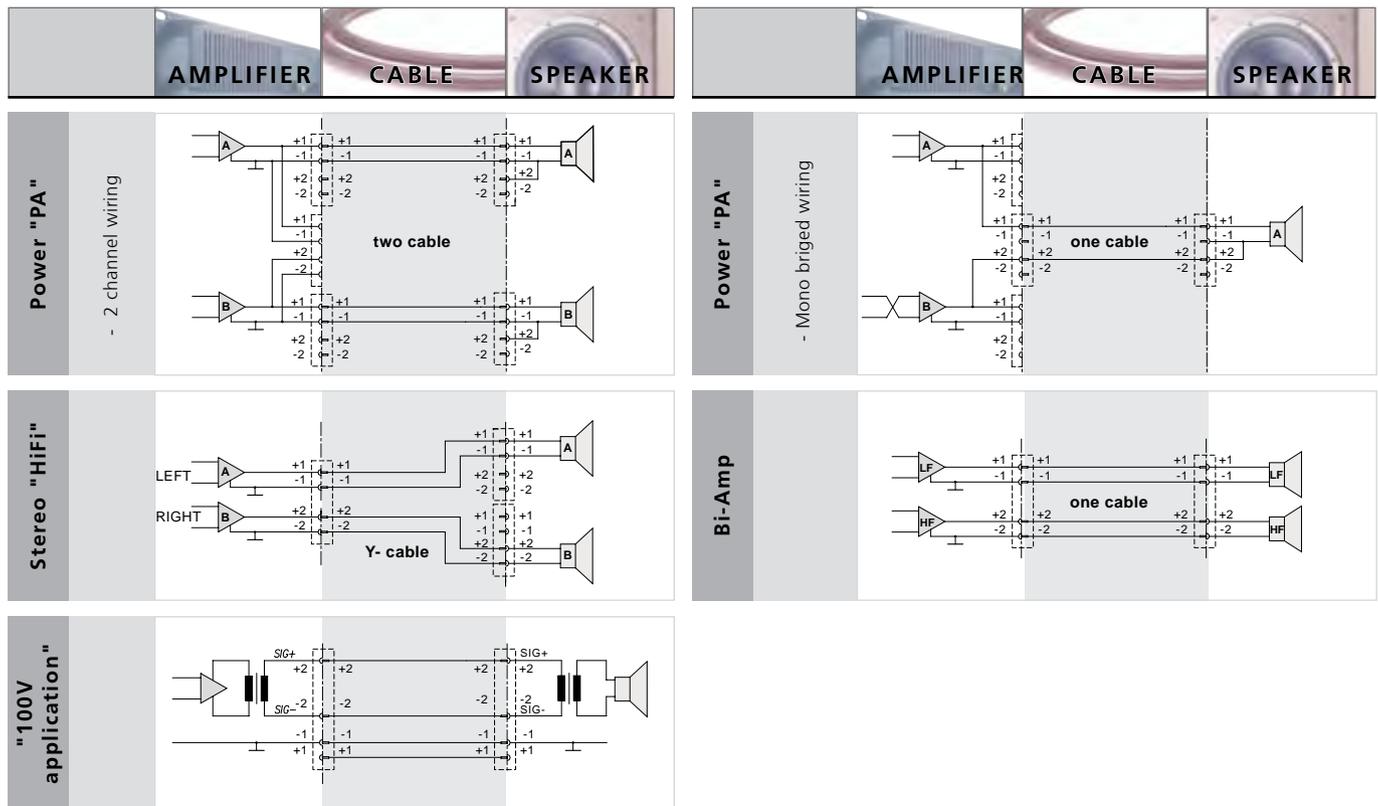| A-Screw-1-8	Black self tapping PLASTITE® screw 2.9 x 8 for rear panel mount
NLFASTON	FASTON® receptacle for tabs with "positiv lock" for use with NL4MP, NL4MPR, NL8MPR, Pack of 100 pcs.
MFD	M3 mounting frame for D-size chassis
NDL	dummyPLUG for 2 & 4 Pole chassis connector
NZP1RU-8	Panel 1RU housing 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
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
SCCD-W	Spring-loaded cover to seals for D-size chassis Connectors, IP 65 rated
SCNLT	Gasket for NLT4MP
	(To make a cabinet with an Amphenol EP cutout airtight, use the rubber sealing which covers the entire hole.)

(*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)

W i r i n g   S u g g e s t i o n

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

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

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

Data Connectors

Content   Page

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.
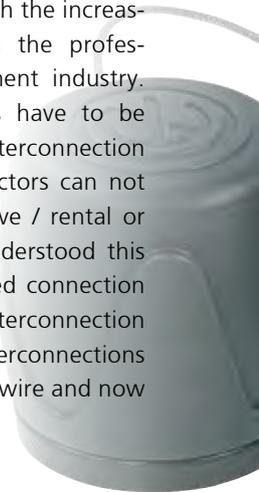
NEUTRIK®, opticalCON®**, neutri**CON®**, mini**CON®**, nano**CON®**, power**CON®**, Profi®, speak**ON®**, silent**PLUG®**, crystal**CON®**, ether**CON®**, rear**TWIST®**, XIRIUM®, DIWA® are registered trademarks of Neutrik AG.**

opticalCON

Sealing cover, gaskets protect the optical connection from dust and dirt.

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 conzept 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.

opticalCON

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

Lockable, O-ring sealed metal protection cap

Ratched lock bushing

Custom color coding

Color coding wiring

opticalCON MTP®

opticalCON QUAD

Protective rubber coating

opticalCON DUO

Ergonomic anti-kink boot for various cable O.D.

opticalCON DUO

opticalCON DUO
equipment connection
system integration

protection boot
ruggedized metal housing
sealing shutter
colored sealing gasket

heavy duty cable retention

4 copper contacts

2 fibers

Standard LC connector compatibility

sealing shutter

spring loaded push pull locking mechanism

big solder cups (AWG 18)

HYBRID

opticalCON QUAD

opticalCON QUAD
point to point
multichannel routing

protection boot
ruggedized metal housing
sealing shutter
colored sealing gasket

heavy duty cable retention

4 fibers

sealing shutter

spring loaded push pull locking mechanism

Standard LC connector compatibility

MULTICHANNEL

opticalCON MTP®

opticalCON MTP®
point to point
multichannel routing

spring loaded push pull locking mechanism

ruggedized metal housing

sealing shutter

colored sealing gasket

heavy duty cable retention

12 fibers

protection boot

Standard MTP® connector compatibility

sealing shutter

MULTICHANNEL

Rugged metal housing

Cable drum

Rubber coated protection cover

Rear LC connection

Chassis with transceiver adapter

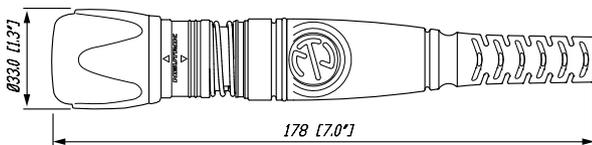Sealing shutters

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
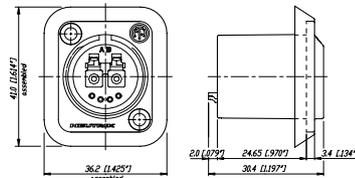- Hybrid assembly available
- Custom split cable assembly

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 silcone 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

NKO2*

Ø33.0 [1.3"]

178 [7.0"]

NO2-4FDW-A

41.0 [1.614"] assembled

36.2 [1.425"] assembled

2.0 [.079"]   24.65 [.970"]   3.4 [.134"]

30.4 [1.197"]

Colour Coding

Sealed and rugged housing

Sealing shutter

Sealed housing

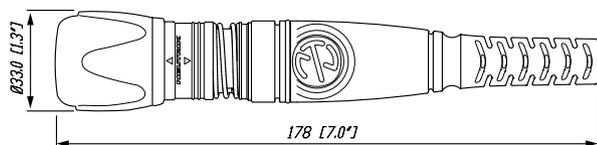Rear LC connection

Cable Connector Assembly

NKO4S-A*

NKOP8*
POWER-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
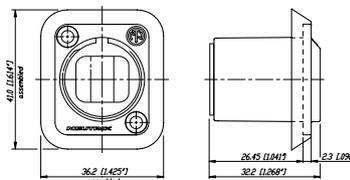- Field repairable

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)

NKO4*

Ø33.0 [1.3"]
178 [7.0"]

NO4FDW-A

41.0 [1.614"] assembled
36.2 [1.425"] assembled
26.45 [1.041"]
32.2 [1.268"]
2.3 [.090"]

Find more details in the opticalCON Guide and on www.neutrik.com.

Rugged metal housing

Spherical shutter
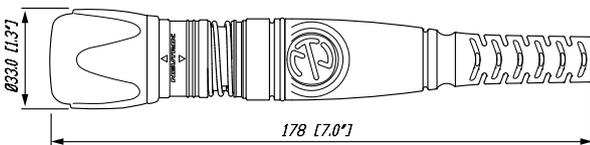

Rubber sealing gasket

Rear MTP® connection

Cable Connector Assembly

NKO12S*

- 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
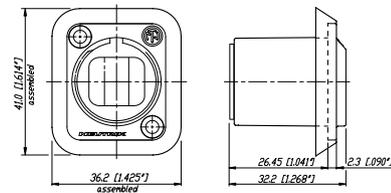
Chassis Connector

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)

NKO12*

Ø33.0 [1.3"]

178 [7.0"]

NO12FDW-A

41.0 [1.614"] assembled

36.2 [1.425"] assembled

26.45 [1.041"]   2.3 [.090"]

32.2 [1.268"]

innovative **solutions** | superior **quality**

Colour coding

DUO, QUAD & MTP® Couplers

Frame with opticalCON

Individual frame application

Breakout Boxes & Coupler

NO4SABB4D-A   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
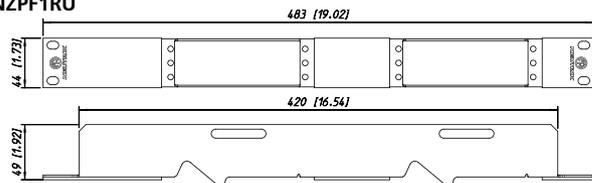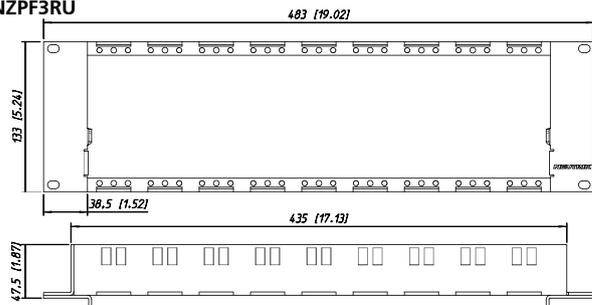
19" Z-Panel & Plates

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
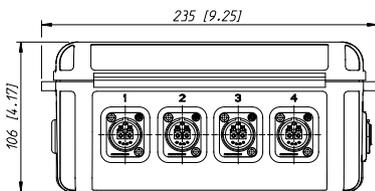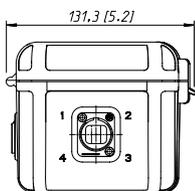- Best cable bend protection
- 1 RU or 3 RU frame

NZPF1RU

483 [19.02]
44 [1.73]
420 [16.54]
49 [1.92]

NZPF3RU

483 [19.02]
133 [5.24]
38.5 [1.52]
435 [17.13]
47.5 [1.87]

NO4SABB4D-A

131,3 [5.2]   235 [9.25]
106 [4.17]

1 2
4 3

1 2 3 4

Find more details in the opticalCON Guide and on www.neutrik.com.

www.neutrik.com   91

Breakout Box with powerMONITOR

3RU frame with up to 9 powerMONITORs

1RU rack mount

Robust rear connection

p o w e r M O N I T O R

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-A

innovative **solutions** | superior **quality**
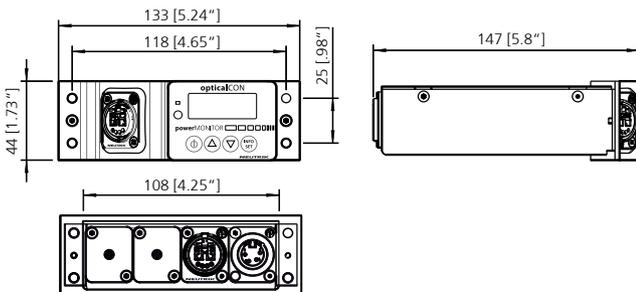
19" x 1 1/2 RU Rack unit

Ergonomic panel

Wieland rear connection

Coupler NAO4MW-A

Breakout Cable

opticalCON Field assembly

Accessories & opticalSWITCH

opticamSWITCH

CAS-FOCD-ADV

CAS-FOMD

NAOBO

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

- 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

Find more details in the opticalCON Guide and on www.neutrik.com.

etherCON

Example of etherCON RJ45 Data Connector
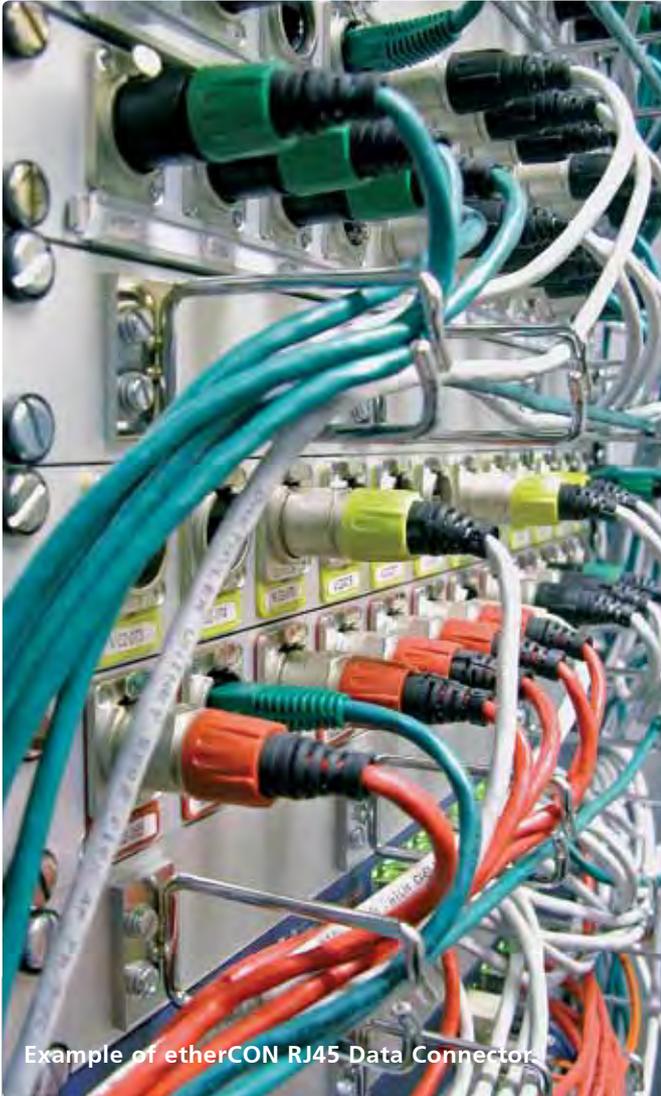
Ruggedized RJ45 Data Connector

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 achived 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)
PCB mount	NE8FAV NE8FBV NE8FDV NE8FAH NE8FBH*	NE8FDH-C5E	
IDC		NE8FAV-Y* NE8FDV-Y*	NE8FDY-C6
Feedthrough		NE8FDP NE8FF	

Rugged diecast shell

Colored coding Bushing

## e t h e r C O N – C a b l e   C a r r i e r s

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

ø19 (.75")

54 (2.126")

ø19 (.75")

69 (2.717")

NE8MC-1

ø19 (.75")

69 (2.717")
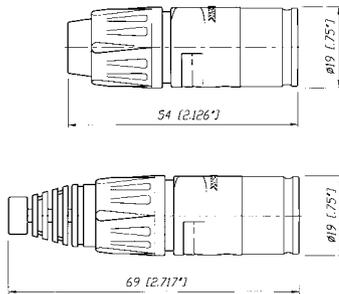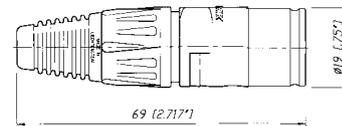
Horizontal PCB

Vertical PCB

IDC Terminals

NE8FDV-SE – Vertical PCB receptacle combined with waterproof kit

e t h e r C O N – R e c e p t a c l e s
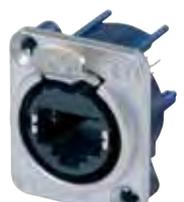

NE8FAV + ACRF-2
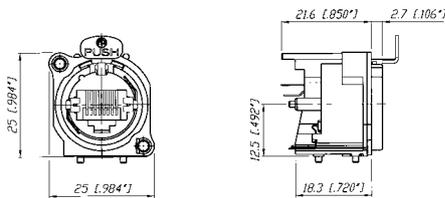

NE8FBH

NE8FAV-YK

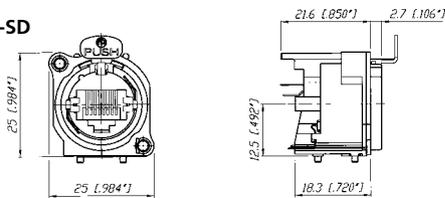NE8FDV

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
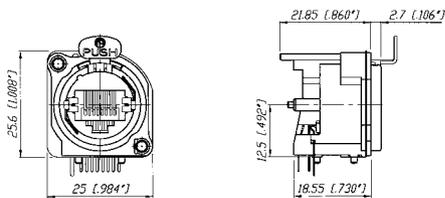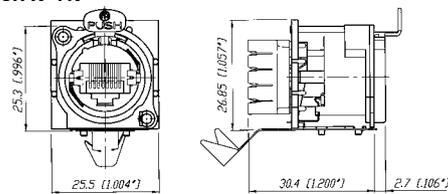- Version with screw domes to fix connector onto PCB securely (NE8FAV-SD)

NE8FAV

NE8FAV-YK

NE8FAV-SD

NE8FAV-Y110

NE8FBH

NE8FDV

innovative **solutions** | superior **quality**
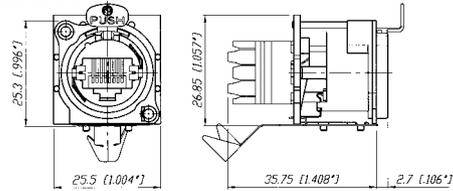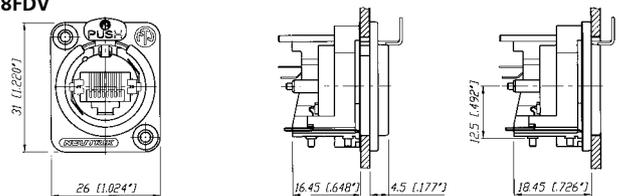
Completely closed housing

Light pipe

NE8FDP rear side

Locking latch

Shielded & Lighted

NE8FBH-S

NE8FBH-LED

Feedthrough

NE8FDP

NE8FF

- 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

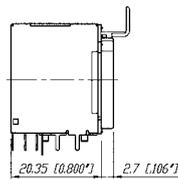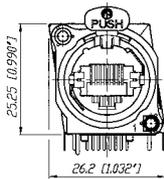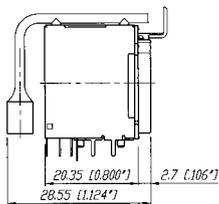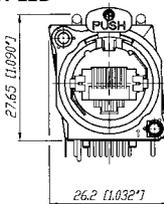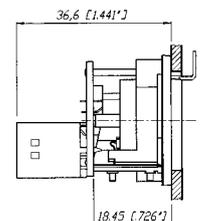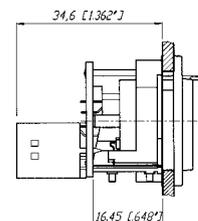| Specification		NE8MC* Cable Con.	NE8FA/B* (A + B Series)	NE8FD* (D Series)
Electrical				
Number of contacts		- [1]	8	8
Rated current per contact	< 1.5 A	- [1]	●	●
Rated voltage	< 50 V ac	- [1]	●	●
Contact resistance	< 10 mΩ	- [1]	●	●
Insulation resistance	> 500 MΩ	- [1]	●	●
Dielectric strength	> 1`000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

[1]: Specs depend on type of RJ45 plugs used

Ordering Information

Cable Connector

NE8MC	Cable housing with chuck and bushing (two antikink boots, one up to 5 mm and one up to 8 mm cable O.D.)
	(standard bushing in black, 9 different coding colours on request)
NE8MC-B	Black chromium housing with chuck and bushing (two antikink boots, one for 5 mm and one for 8 mm cable O.D.)
	(standard bushing in black, 9 different coding colours on request)
NE8MC-1	Cable housing with chuck and X-series bushing, Collinox plating and O-ring gasket (perfect for waterproof applications)
	(standard bushing in black, 9 different coding colours on request)
NE8MC-B-1	Black chromium housing with chuck and X-series bushing
	(standard bushing in black, 9 different coding colours on request)
IMPORTANT:	Cable connectors do not include RJ45 plug. RJ45 cable assembly must be provided by end-user!

Receptacle

Receptacle	A-shape (all plastic)	B-shape (Nickel ring)	D-shape
Horizontal PCB	NE8FAH	NE8FBH	
Vertical PCB	NE8FAV	NE8FBV	NE8FDV / NE8FDV-SE*
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; * ... NE8FDV with SE8FD Waterproof kit

Feedthrough

NE8FDP	Receptacle (includes 2 mounting screws)
NE8FF	Coupler

Accessories

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
SCCD-W	Spring-loaded cover to seals for D-size chassis connectors, IP 65 rated

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

A screw   E screw   E screw Nickel

ACRF-*   DSS-*   BSE-*   BSX-*

SCDX   SCCD-W   SCDP-*

Waterproof kit for etherCON D-Series

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)

Waterproof assembly kit - SE8FD

Push Pull locking

IP65 in mated condition

D-shape metal shell

Closed shielding

CAT6 Patch Cable

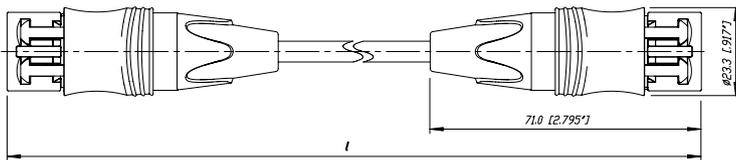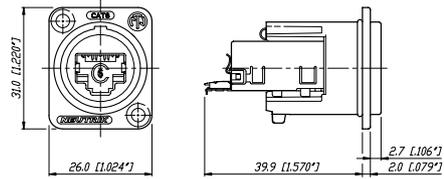## CAT6 Receptacles

NKE6S-*

NE8MC6-MO

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
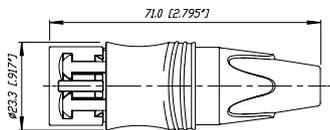
NKE6S-*

NE8FDY-C6

71.0 [2.795"]

Ø23.3 [.917"]

31.0 [1.220"]

26.0 [1.024"]

39.9 [1.570"]

2.7 [.106"]
2.0 [.079"]

NE8MC6-MO

71.0 [2.795"]

Ø23.3 [.917"]

innovative **solutions** | superior **quality**

Design Criteria

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

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

Technical Data

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

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

Ordering Information

Cable Connector

NE8MC6-MO	Cable plug carrier offering a robust metal shell with Push-Pull locking system

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	see page 99 / 104 / 106

Push Pull locking

USB type B

D-shape metal
housing

USB type B

USB Patch Cable

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

Ø23.3 [.917"]

54.5 [2.15]
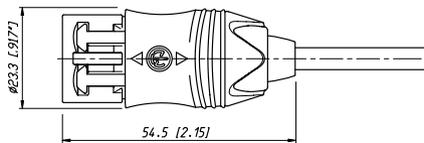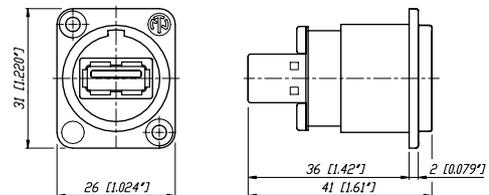
USB Receptacle

NAUSB-W

NAUSB-W-B

- 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

31 [1.220"]

26 [1.024"]

36 [1.42"]

41 [1.61"]

2 [0.079"]

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 SCCD-W 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
SCCD-W	Spring-loaded cover seals for D-size chassis connectors, IP 65 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

Push Pull locking

HDMI 1.3a

D-shape metal housing

HDMI 1.3a receptacle

H D M I   P a t c h   C a b l e

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-*
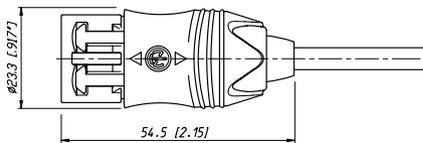
H D M I   R e c e p t a c l e s

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
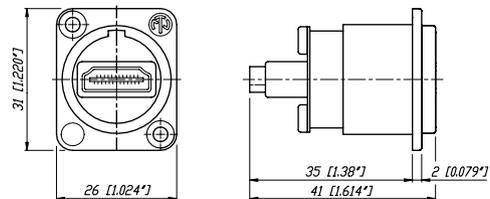
D-shape metal housing

IEE 1394 receptacle

D-SUB data connector

D-shape metal housing
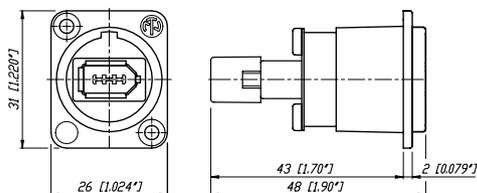
Firewire Receptacle

NA1394-6-W-B

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
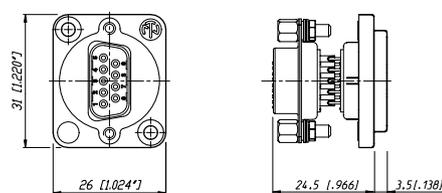- Universally accepted standard D-shape housing

D-SUB Feedtrough

NADB9MF

- Ideal for audio networking and integration of equipment into video systems
- 9- & 15 pole D-SUB feedtrough version
- Universally accepted standard D-shape housing

NA1394-6-W

NADB9MF

Technical Data

Mechanical and Electrical		HDMI Receptacle	HDMI Patch Cable	Firewire	D-SUB
Conform with Standards		HDMI 1.3a	HDMI 1.3a	IEEE	-

Material					
Shell	Zinc diecast (ZnAl4Cu1)	●	●	●	●
Shellplating	Nickel or black Chrome	●	●	●	●
Insert		ABS	Nickel	PBTP 15% GR	Steel, tin plated
		-	PVC	-	PBT
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

Ordering Information D-SUB

NADB9MF	9 pole D-SUB feedthrough, D-shape nickel housing
NADB9MF-B	9 pole D-SUB feedthrough, black D-shape housing
NADB15MF	15 pole D-SUB feedthrough, D-shape nickel housing
NADB15MF-B	15 pole D-SUB feedthrough, black D-shape housing

Accessories

DSS-*	SCM	SCDX	SCCD-W	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
SCCD-W	Spring-loaded cover seals for D-size chassis connectors, IP 65 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

C o n t e n t   P a g e

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.

NEUTRIK®, opticalCON®, **neutri**CON®, **mini**CON®, **nano**CON®, **power**CON®, **Profi**®, **speak**ON®, **silent**PLUG®, **crystal**CON®, **ether**CON®, **rear**TWIST®, **XIRIUM**®, **DIWA**® **are registered trademarks of Neutrik AG.**

Gold plated ground contact with improved shielding effectiveness optimized for high frequency HDTV signal up to 4.5 GHz.
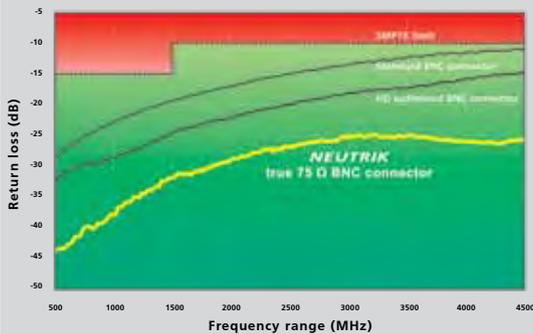
True 75 Ω HDTV Connectors

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

Neutrik´s BNC connectors feature a true 75 Ω design that meet the stringent requirements of HDTV and sustain a consistent impedance at high frequencies up to 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.
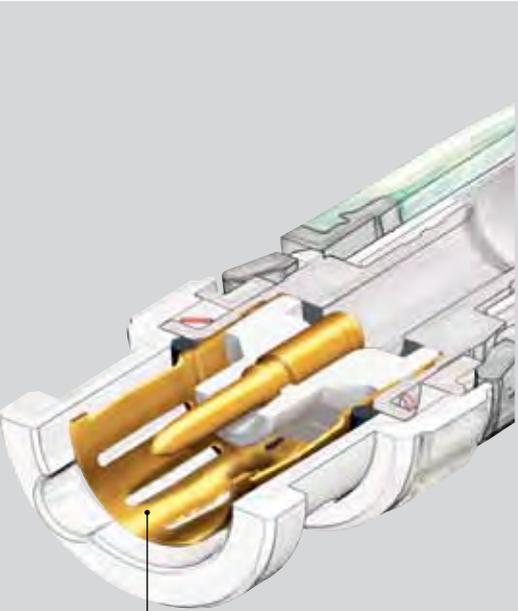
Neutrik® BNCs – enhanced high frequency shielding!

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.

For further technical information and the Neutrik BNC White Paper please refer to www.neutrik.com.

Bayonet locking   Gold plated contacts   Female cable jack

rearTWIST (Standard, Large & Tiny) and Cable Jacks

NBTC75BLI4   NBNC75BLP7   NBNB75GLP9   NBTB75CFI4

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

innovative **solutions** | superior **quality**

37 [1.46"]

Ø14.5 [.57"]
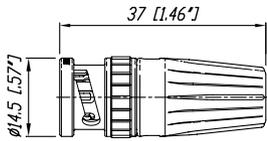
Features & Benefits

- 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.
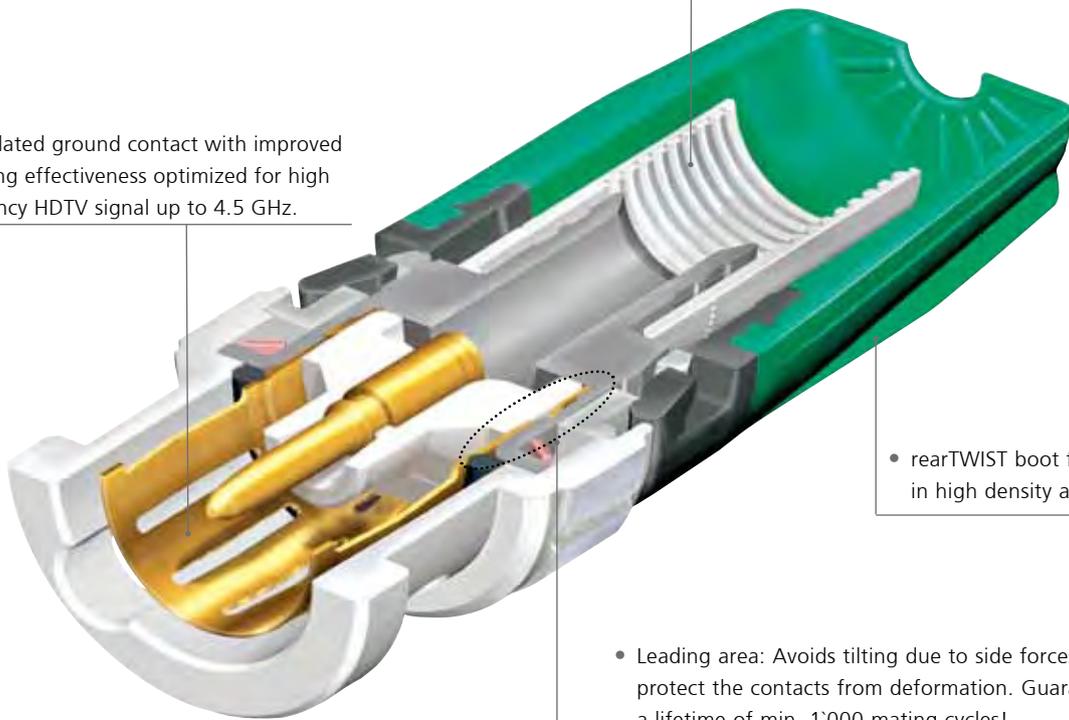
- rearTWIST boot for easy access
  in high density applications.

- 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	Stripping Tool			
						CS-BNC-RT	CS-BNC-LCS	CS-BNC-LCV	+ CS-BNC-TCI
Belden									
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				7.36	●	-	-	-
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	●	-	-	-
1794A	NBNC75BZV14				8.23	●	-	-	-
CANARE									
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	●	-	-	-
COMMSCOPE									
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	●	-	-	-
CANFORD									
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	●	-	-	-

innovative **solutions** | superior **quality**

	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm	Stripping Tool CS-BNC-RT	CS-BNC-LCS	CS-BNC-LCV	+CS-BNC-TCI
DRAKA MULTIMEDIA CABLE									
0.31 / 1.45 AF, 753-1304(2), 755-1302		NBTC75BFI4	NBTB75CFI4		4.06	●	-	-	-
0.41 / 1.9 AF, 753-1104, 755-1103, 755-1101		NBTC75BNN5	NBTB75CNN5		4.53	●	-	-	-
0.51 / 2.3 Dz, 757-1001, VADN 7243		NBTC75BVX6			5.00	●	-	-	-
0.6 / 2.8 AF, 0.6 L / 2.8 AF	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	-	-	●	-
SUHNER									
G02233		NBTC75BFI4	NBTB75CFI4		4.06	●	-	-	●
G04233D	NBNC75BLS7				7.01	●	-	-	-
S02223		NBTC75BLI4			4.06	●	-	-	-
S04233, S04263	NBNC75BLP9			NBNB75GLP9	6.47	●	-	-	-
S05133-07	NBNC75BTU11				7.36	●	-	-	-
S05163-02	NBNC75BTU11				7.36	●	-	-	-
Percon									
VK770F ENH+	NBNC75BWU13				7.03	●	-	-	-
VK2 FRLS NUEVA		NBTC75BNN5			4.53	●	-	-	●
VK9 1.6 FRLSHF NUEVA	NBLC75BVZ17				9.73	-	-	●	-
VK8 1.4 FRLSHF NUEVA	NBLC75BSX14				9.73	-	-	●	-
VK95 PTC NUEVA	NBNC75BLP7				6.47	●	-	-	-
VK77 PTC NUEVA	NBNC75BTU11				7.36	●	-	-	-
Van Damme									
268-175-000	NBNC75BUU11				7.36	●	-	-	-
268-275-000	NBNC75BJP9				6.47	●	-	-	-
268-475-000	NBNC75BTU11				7.36	●	-	-	-
268-675-000	NBNC75BTU11				7.36	●	-	-	-
278-475-000	NBLC75BVZ17				9.73	-	-	●	-
278-175-000	NBNC75BUU11				7.36	●	-	-	-
278-975-000	NBNC75BLP9				6.47	●	-	-	-
278-775-000		NBTC75BSS5			4.53	●	-	-	●
278-075-000	NBNC75BFG7				5.00	●	-	-	-
278-075-006	NBNC75BFG7				5.00	●	-	-	-
278-375-000	NBNC75BUU11				7.36	●	-	-	-

	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm	Stripping Tool CS-BNC-RT	CS-BNC-LCS	CS-BNC-LCV	+CS-BNC-TCI

OTHERS

	rearTWIST	rearTWIST Tiny	Cable Jack Tiny	Cable Jack Panel	Hex Crimp in mm	CS-BNC-RT	CS-BNC-LCS	CS-BNC-LCV	+CS-BNC-TCI
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 02YS(ST)CH	NBNC75BFG7				5.00	●	-	-	-
Nexans HF 75 1.6/7.2 02Y(ST)C(ST)H	NBNC75BVZ17				9.73	●	-	-	-
Nexans HF 75 0.6/3.7 2YCY	NBNC75BLP7				6.47	●	-	-	-
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	NBNC75BLP9				6.47	●	-	-	-
Van Damme 268 475	NBNC75BTU11				7.36	●	-	-	-
Van Damme 278 475	NBLC75BVZ17				9.73	-	-	●	-
Van Damme 278 775		NBTC75BSS5			4.53	●	-	-	●
Van Damme 268 175	NBNC75BUU11				7.36	●	-	-	-
Van Damme 268 275 / 268 306	NBNC75BLP9				6.47	●	-	-	-
Van Damme 268 408		NBTC75BFI4			4.06	●	-	-	●

* Registered trademark of BBC

innovative **solutions** | superior **quality**

	Inner Conductor	Insulator	Cable O.D. in mm	Pin crimp mm (square)	Hex crimp mm	Stripping Tool			
						CS-BNC-RT	CS-BNC-LCS	CS-BNC-LCV	+ CS-BNC-TCI

rearTWIST

	Inner Conductor	Insulator	Cable O.D. in mm	Pin crimp mm (square)	Hex crimp mm				
NBLC75BVZ17	< 1.7	< 8.0	< 10.4	1.75 (Hex crimp)	9.73	-	-	●	-
NBLC75BSX14	< 1.4	< 6.6	< 9.5	1.75 (Hex crimp)	9.73	-	-	●	-
NBNC75BDD6	< 0.6	< 2.8	< 4.3	1.6	4.53	●	-	-	-
NBNC75BFG7	< 0.7	< 3.1	< 4.7	1.6	5.00	●	-	-	-
NBNC75BFH6	< 0.6	< 3.1	< 4.9	1.6	5.00	●	-	-	-
NBNC75BGG7	< 0.7	< 3.2	< 4.7	1.6	5.00	●	-	-	-
NBNC75BHK7	< 0.7	< 3.3	< 5.6	1.6 (or 1.75 Hex)	5.41	●	-	-	-
NBNC75BIJ9	< 0.9	< 3.6	< 5.3	1.6	5.41	●	-	-	-
NBNC75BJJ9	< 0.9	< 3.8	< 5.3	1.6	5.41	●	-	-	-
NBNC75BJP9	< 0.9	< 3.8	< 6.3	1.6	6.47	●	-	-	-
NBNC75BLP7	< 0.7	< 3.8	< 6.3	1.6	6.47	●	-	-	-
NBNC75BLP9	< 0.9	< 3.8	< 6.3	1.6	6.47	●	-	-	-
NBNC75BLS7	< 0.7	< 3.8	< 6.9	1.6	7.01	●	-	-	-
NBNC75BNP9	< 0.9	< 4.1	< 6.3	1.6	6.47	●	-	-	-
NBNC75BQP11	< 1.1	< 4.5	< 6.3	1.6	6.47	●	-	-	-
NBNC75BRS9	< 0.9	< 4.8	< 6.9	1.6	7.01	●	-	-	-
NBNC75BTS9	< 0.9	< 4.7	< 6.9	1.6	7.01	●	-	-	-
NBNC75BTS11	< 1.1	< 4.7	< 6.9	1.6	7.01	●	-	-	-
NBNC75BTU11	< 1.1	< 4.7	< 7.3	1.6	7.36	●	-	-	-
NBNC75BTU13	< 1.3	< 4.7	< 7.3	1.6	7.36	●	-	-	-
NBNC75BUU11	< 1.1	< 4.9	< 7.3	1.6	7.36	●	-	-	-
NBNC75BRU11	< 1.1	< 4.7	< 7.3	1.6	7.36	●	-	-	-
NBNC75BWS11	< 1.1	< 5.1	< 6.9	1.6	7.01	●	-	-	-
NBNC75BWS12	< 1.2	< 5.1	< 6.9	1.6	7.01	●	-	-	-
NBNC75BWU13	< 1.4	< 5.1	< 7.3	1.6	7.36	●	-	-	-
NBNC75BXU13	< 1.4	< 5.3	< 7.3	1.6	7.36	●	-	-	-
NBNC75BXY9	< 0.9	< 5.3	< 8.0	1.6	8.23	●	-	-	-
NBNC75BYY9	< 0.9	< 5.2	< 8.0	1.6	8.23	●	-	-	-
NBNC75BYY11	< 1.1	< 5.2	< 8.0	1.6	8.23	●	-	-	-
NBNC75BZV14	< 1.4	< 5.2	< 8.0	1.6 (or 1.75 Hex)	8.23	●	-	-	-

rearTWIST TINY

	Inner Conductor	Insulator	Cable O.D. in mm	Pin crimp mm (square)	Hex crimp mm				
NBTC75BFI4	< 0.4	< 1.6	< 2.9	1.6	4.06	●	-	-	●
NBTC75BLI4	< 0.4	< 1.8	< 2.9	1.6	4.06	●	-	-	●
NBTC75BLI5	< 0.5	< 1.8	< 2.9	1.6	4.06	●	-	-	●
NBTC75BNN5	< 0.5	< 2.0	< 3.1	1.6	4.53	●	-	-	●
NBTC75BNS4	< 0.4	< 2.0	< 3.5	1.6	4.53	●	-	-	●
NBTC75BSS5	< 0.5	< 2.3	< 3.4	1.6	4.53	●	-	-	●
NBTC75BVV5	< 0.5	< 2.5	< 3.8	1.6	5.00	●	-	-	●
NBTC75BVX6	< 0.6	< 2.5	< 4.0	1.6	5.00	●	-	-	●
NBTC75BXX5	< 0.5	< 2.6	< 4.0	1.6	5.00	●	-	-	●
NBTC75BXX6	< 0.6	< 2.6	< 4.0	1.6	5.00	●	-	-	●

CABLE JACKS (TINY & PANEL VERSION)

	Inner Conductor	Insulator	Cable O.D. in mm	Pin crimp mm (square)	Hex crimp mm				
NBTB75CFI4	< 0.4	< 1.6	< 2.9	1.6	4.06	●	-	-	●
NBTB75CNN5	< 0.5	< 2.0	< 3.1	1.6	4.53	●	-	-	●
NBTB75CLI5	< 0.5	< 1.8	< 2.9	1.6	4.06	●	-	-	●
NBNB75GLP9	< 0.9	< 3.8	< 6.3	1.6	6.47	●	-	-	●
NBNB75GUU11	< 1.1	< 4.9	< 7.3	1.6	7.36	●	-	-	●
NBNB75ILP9	< 0.9	< 3.8	< 6.3	1.6	6.47	●	-	-	●
NBNB75IUU11	< 1.1	< 4.9	< 7.3	1.6	7.36	●	-	-	●

D-shape metal housing

Gold plated center pin

B N C   C h a s s i s   &   C a b l e   J a c k s   P a n e l   V e r s i o n

Bulkhead Jacks - NBB75FG

NBB75DFG

NBB75DFGB

Cable jacks Panel Version – NBB75SI

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

NBB75DFG

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0.5 [.020"]

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NBB75FI

SW 16 -0.15

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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
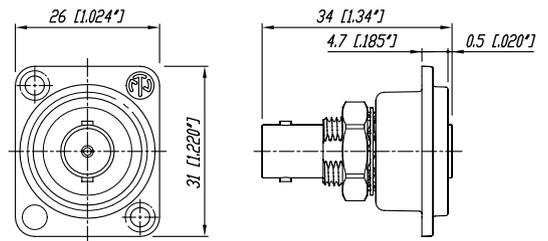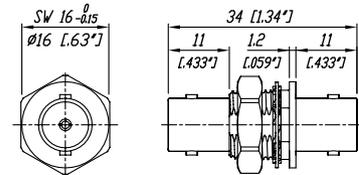
Ordering Information

	Nickel housing	Black housing
Bulkhead jack, D-shape housing, feed through, grounded	NBB75DFG	NBB75DFGB
Bulkhead jack, D-shape housing, feed through, isolated	NBB75DFI	NBB75DFIB
Bulkhead jack, D-shape housing, solder version, grounded	NBB75DSG	NBB75DSGB
Bulkhead jack, D-shape housing, solder version, isolated	NBB75DSI	NBB75DSIB
Bulkhead jack, feed through, grounded	NBB75FG	
Bulkhead jack, feed through, isolated	NBB75FI	
Bulkhead jack, solder version, including isolationwashers	NBB75SI	
Coupler, feed through	NBB75FA	

Specifications		rearTWIST & rearTWIST Large & Cable Jack Panel	rearTWIST Tiny & Cable Jack Tiny	Bulkheads & Coupler
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	mm	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

C o l o u r   C o d e d   A c c e s s o r i e s   a n d   S e a l s

| BST-BNC-* | DSS-* | SCF | SCDX | SCCD-W | SCDP-* |

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 agains 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
SCCD-W	Spring-loaded cover to seals for D-size chassis connectors, IP 65 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

A s s e m b l y   T o o l s

| CS-BNC-RT | HX-R-BNC | HX-BNC |

| CAS-BNC-T | PT-BNC | DIE-R-BNC-* | DIE-BNC-* |

CAS-BNC-T	BNC tool case equipped with HX-R-BNC, PT-BNC: Plier tool, CS-BNC-RT: Stripping tool Note: Dies have to be ordered separately	DIE-R-BNC-*	Crimp tool die for pin and shield for HX-R-BNC
		HT-BNC	Spanner tool for the pushPULL BNCs
CS-BNC-RT	Coax cable stripper for cable O.D. 2.5 – 8 mm	HX-BNC	Crimp tool, frame (heavy duty)
CS-BNC-LCS	Coax cable stripper for cable O.D. > 8 mm (BNLC75BSX14)	HX-R-BNC	Crimp tool, frame
CS-BNC-LCV	Coax cable stripper for cable O.D. > 8 mm (NBLC75BVZ17)	PT-BNC	BNC pliers tool
DIE-BNC-*	Crimp tool die for pin and shield for HX-BNC		

Crimp die assignment for HX-BNC

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

Crimp die assignment for HX-R-BNC

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

Circular Connectors

C o n t e n t   P a g e

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

UL recognized

ENEC certified

powerCON TRUE1 – Lockable 16 A single phase connector

| 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
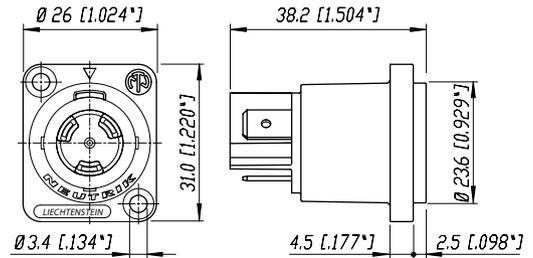
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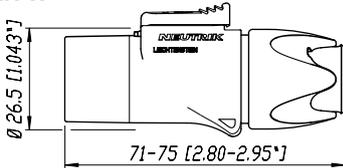
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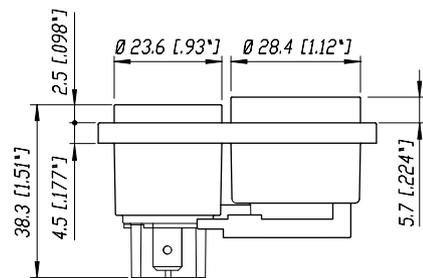
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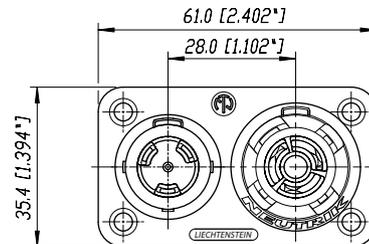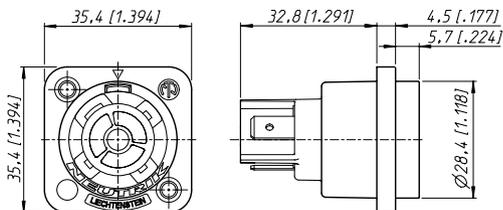
Ordering Information

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

HTAC   SCDP-*   SCNAC-PX   SCNAC-FPX   SCNAC-MPX

HTAC	Hand tool to tighten the powerCON TRUE1 bushing
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

POWER IN

NAC3MPX

NAC3FX-W or NKPF
(Connector)

APPLIANCE COMBINATION

INLET | OUTLET

NAC3PX

POWER IN

POWER OUT

NAC3MX-W or NKPM
(Plug connector)

CABLE EXTENTION

NAC3FX-W or NKPF
(Connector)

APPLIANCE OUTLET

POWER OUT

NAC3FPX

NAC3MX-W or NKPM
(Plug connector)
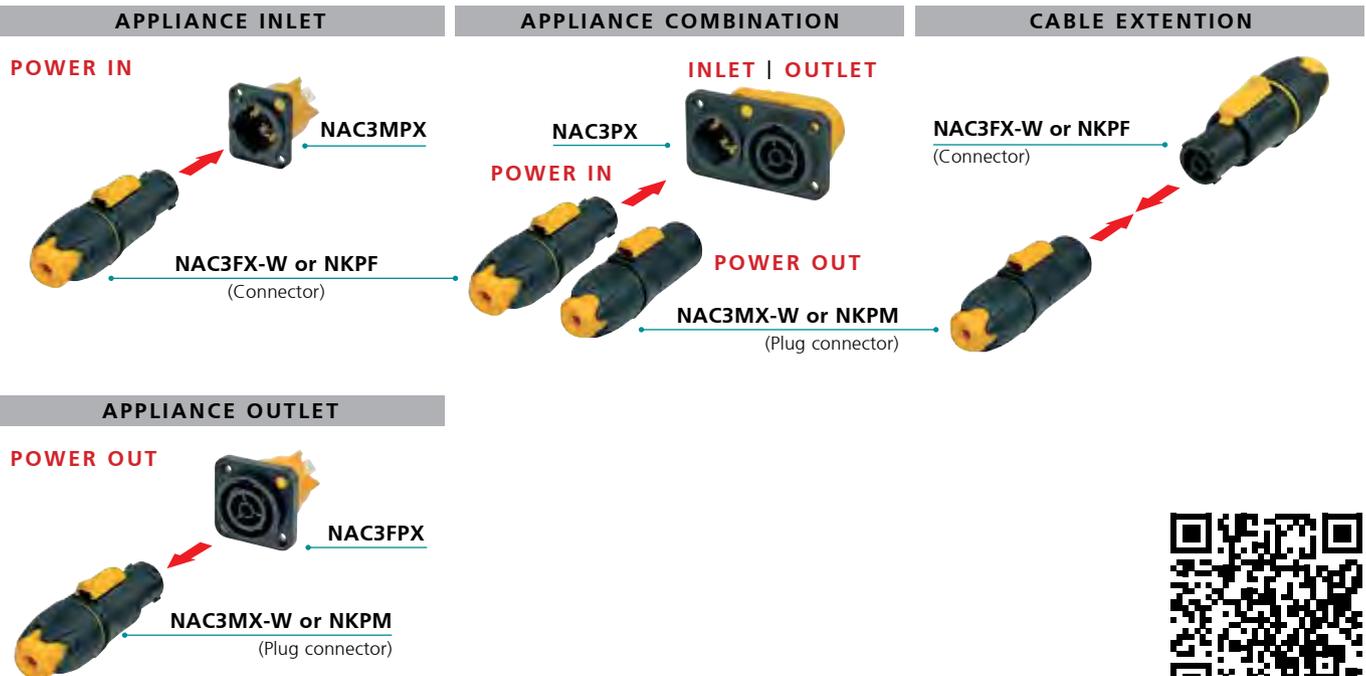
Specification
READY-MADE POWER CORDS

Ready-made overmolded power cord in protection class IP65. The cable utilizes standard duty cord with 3 conductors with cross section 1.5 mm² or 12 AWG.

Cables are equipped with Neutrik TRUE1 powerCON NAC3FXW and NAC3MXW for extention 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
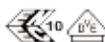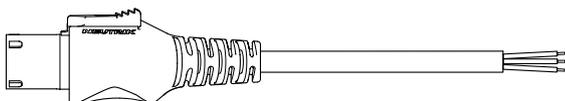
Plug / end termination	Neutrik NAC3FXW / stripped open end
Approvals	ENEC, VDE
Standard length	1 m, 1.5 m, 2 m, 3 m, 5 m
Conductor size	3 x 1.5 mm²
Cable type / color / Nom. O.D.	H07RN-F3G1.5 / black / 9.6 mm
Part Number e.g.	NKPF-NC-A-3
Cable type / color / Nom. O.D.	H05VV-F3G1.5 / black / 8.3 mm
Part Number e.g.	NKPF-NC-B-1

International Extension Cord 16 A / 250 VAC
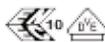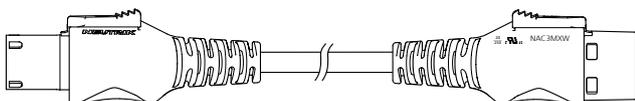
Plug / end termination	Neutrik NAC3FXW / Neutrik NAC3MXW
Approvals	ENEC, VDE
Standard length	0.5 m, 1 m, 1.5 m
Conductor size	3 x 1.5 mm²
Cable type / color / Nom. O.D.	H07RN-F3G1.5 / black / 9.6 mm
Part Number e.g.	NKPF-M-A-0.5
Cable type / color / Nom. O.D.	H05VV-F3G1.5 / black / 8.3 mm
Part Number e.g.	NKPF-M-B-1

innovative **solutions** | superior **quality**

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

LENGTH in m

CABLE TYPE

A H07RN-F3G1.5
B H05VV-F3G1.5
C .... SJTOW 12AWG
D .... SJOOW 12AWG
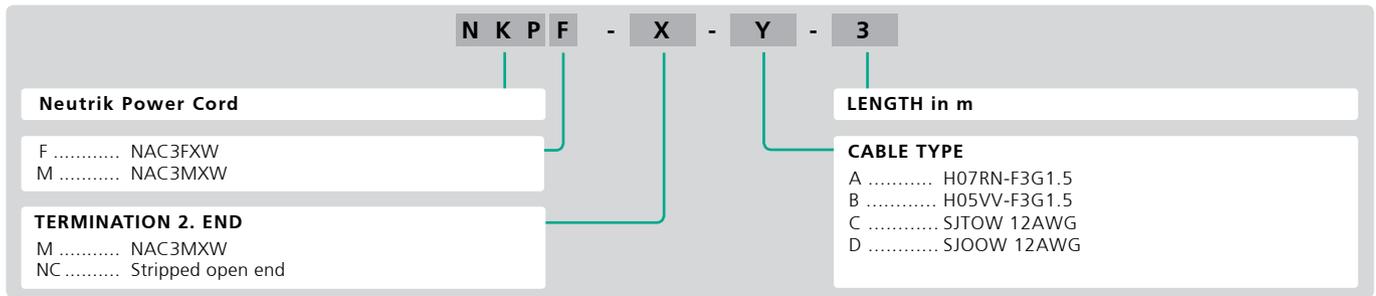
US Cord

US Power Cord 20 A / 250 VAC
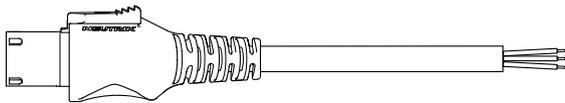
Plug / end termination	Neutrik NAC3FXW / stripped open end
Approvals	UL, cUL
Standard length	1 m, 1.5 m, 2 m, 3 m, 5 m
Conductor size	3 x 12 AWG
Cable type / color / Nom. O.D.	SJTOW / black / 11.3 mm
Part Number e.g.	NKPF-NC-C-5
Cable type / color / Nom. O.D.	SJOOW / black / 11.3 mm
Part Number e.g.	NKPF-NC-D-3

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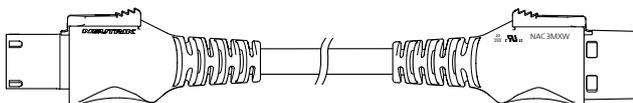
Plug / end termination	Neutrik NAC3FXW / Neutrik NAC3MXW
Approvals	UL, cUL
Standard length	0.5 m, 1 m, 1.5 m
Conductor size	3 x 12 AWG
Cable type / color / Nom. O.D.	SJTOW / black / 11.3 mm
Part Number e.g.	NKPF-M-C-1
Cable type / color / Nom. O.D.	SJOOW / black / 11.3 mm
Part Number e.g.	NKPF-M-D-1

Quick lock

Neutrik hologram

3/16" flat tabs

Locking area on chassis connector

p o w e r C O N – L o c k i n g 3 P o l e P o w e r C o n n e c t o r s

NAC3FCA

NAC3MPA-1

NAC3FCB

NAC3MPB-1

NAC3MM-1

- Lockable 3 pole equipment (AC) connector with contacts for line, neutral and premating 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

innovative **solutions** | superior **quality**
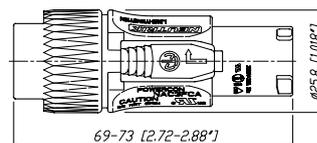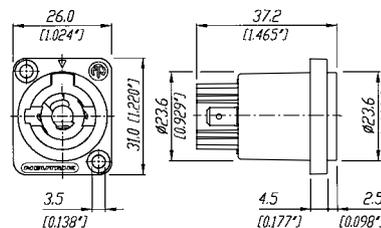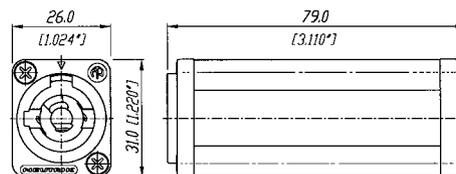
Ordering Information

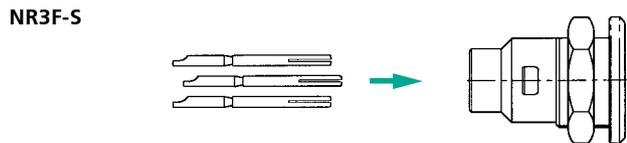|	
NAC3FCA	Cable connector, quick lock with securing lever, A-type for power inlet, screw terminals
NAC3MPA-1	Air tight chassis connector, A-type for power inlet, flat tab terminals, blue
NAC3MPA-1-WOT	Chassis connector, power-out, 3/16'' flat tab terminals, blue, without insulation divider
NAC3FCB	Cable 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	NLFASTON	SCL	SCDR	Example: NAC3MPA-1 + SCDR	SCDX	SCCD-W	SCDP-*

NDL	dummyPLUG for powerCON 20 A chassis connector
NLFASTON	FASTON® receptacle for tabs with "positive lock" for use with NL4MP, NL4MPR, NL8MPR, Pack of 100 pcs.
SCL	Plastic sealing cover to protect the connectors against dust and moisture
SCDR	Rear end protection cover for D-size chassis connectors
SCDP-*	D-Size sealing gaskets, colour coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
SCCD-W	Spring-loaded cover to seals D-size chassis connectors, IP65 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.

NAC3MPA-1

NAC3MPB-1

POWER IN

POWER OUT

NAC3FCA

NAC3FCB

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 mm² (AWG 14 – 10)

NAC3FC-HC
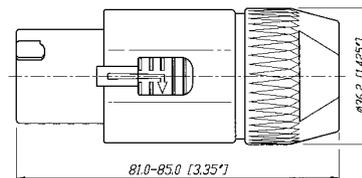
NAC3MP-HC
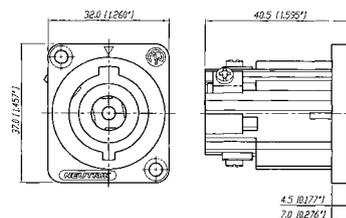
Ordering Information

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

Specification		powerCON TRUE1	powerCON Series	32 A powerCON Series
Electrical				
Number of contacts	2 + PE	●	●	●
Rated current per contact		20 A rms [1]	20 A rms	32 A rms
Rated voltage	250 V ac	●	●	●
Dielectric strength	4 kV ac	●	●	●
Contact resistance	≤ 3 mΩ	●	●	●
Insulation resistance after damp heat test (IEC 68-2-30)	> 0.1 GΩ	●	●	●
Mechanical				
Retention method	Quick lock	●	●	●
Cable O.D. range		6 – 12 mm	6 – 15 mm	8 – 20 mm
Wiring	Cable: screw type terminals	●	●	●
		2.5 mm² / 12 AWG	2.5 mm² / 14 AWG	2.5 – 6 mm² / 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	●	●	-
Material				
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		●	●	●
Environmental				
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	●	-	-

[1] : 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

M 1:1

NSC3F(M)

31.0 [1.220"]
23.0 [0.905"]
7.2 [0.283"]
6.0 [0.236"]
4.8 [0.189"]

NR3F(M)-S

SW 10 [0.394"]
13.2 [0.520"]
M9.0x0.5
Ø12.0 [0.472"]
14.7 [0.579"]

NP3F(M)-H

10.1 [0.398"]
16.7 [0.657"]
12.2 [0.480"]
SW 8 [0.315"]
10.5 [0.413"]
6.5 [0.256"]
Ø7.0 [0.276"]

innovative **solutions** | *superior* **quality**
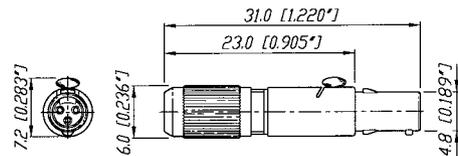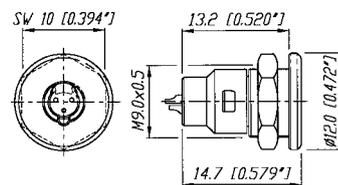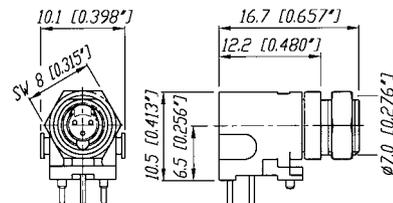
Ordering Information

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

NSC3F

11.0 [0.433"]
3.0 [0.118"]

NSC3M

11.0 [0.433"]
3.0 [0.118"]

NP3F-H
NP3M-H

NR3F-S

NP3F-V
NP3M-V

NR3M-S

Contact Arrangement

Male

2   3
G

Female

3   2
G
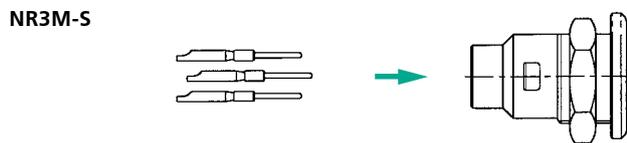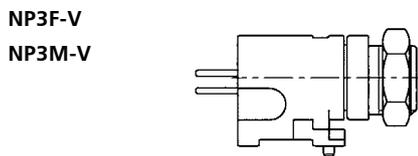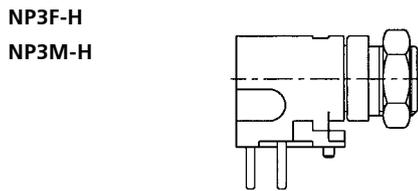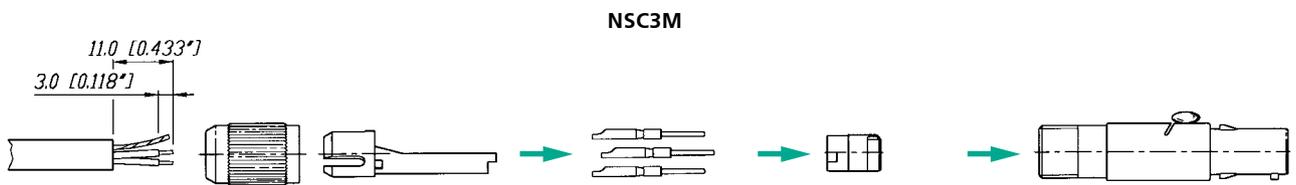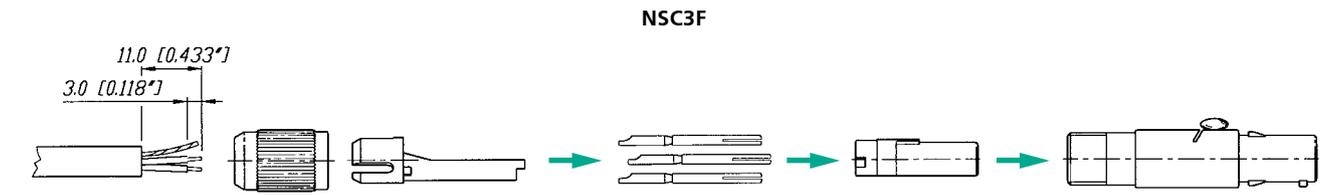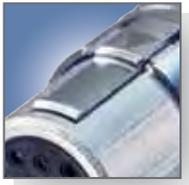
Push Pull locking

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)

MSCF(M)12 (+MSRC)

MPF(M)12-V

MRF(M)12

MPF(M)12-H

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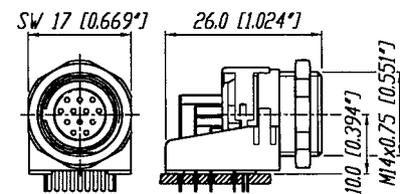
Ordering Information for complete miniCON set

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
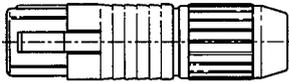
MPF(M)12-V
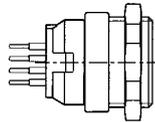
MPF(M)12-H
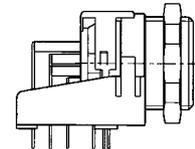
Ordering Information for modular miniCON system

MPC

MPS

MMI

MFI

MBC

MBS

MSC

MMC

MRF

MRM

MSRC

MBC

MBS

MPC

MPS

Reduction ferrule 1

Reduction ferrule 2
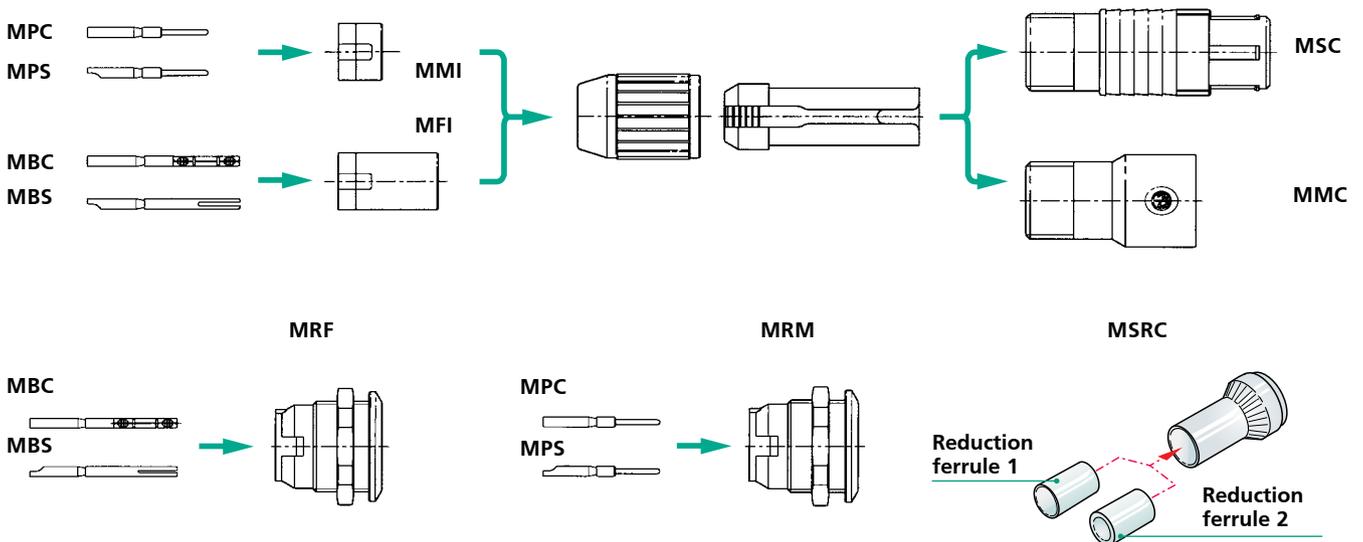
Housing and insert pre-assembled, contacts must be ordered separately.

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

Polarization

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

Coding 90°
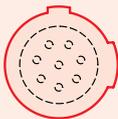
Coding 180°
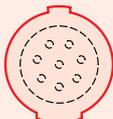
Insert: The male and female insert can be assembled in all three housings.

OSC8F / OSC8M

MODULAR SYSTEM

MC8 + SR8A/B + insert

ORP8F / ORP8M

Ordering Information for complete neutriCON set

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

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

Ordering Information for modular neutriCON system

Cable Connector:
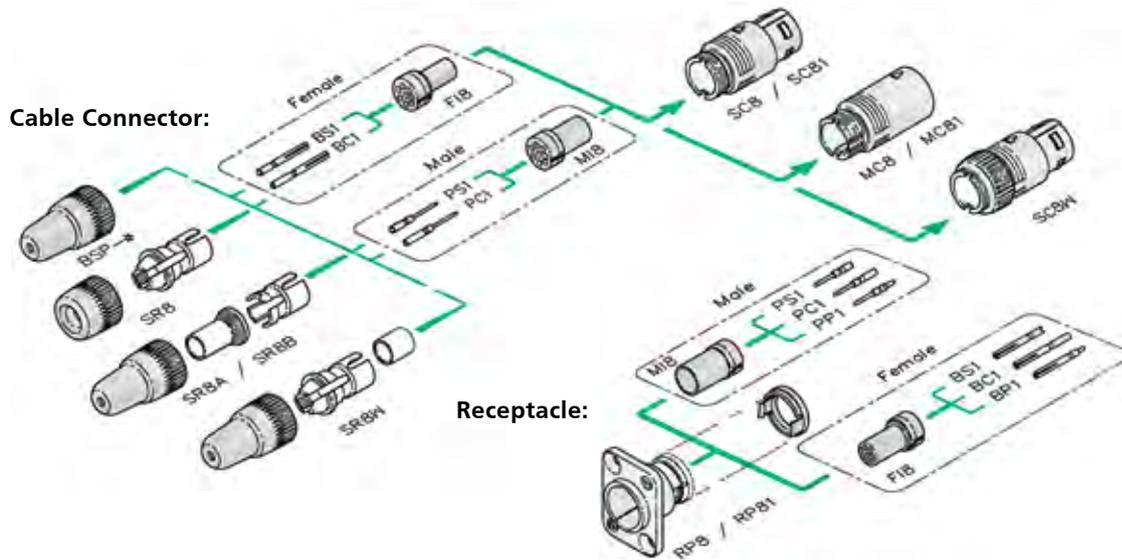
Receptacle:

Modular system

Female		Male	
FI8	Insert for cable connector and receptacle	MI8	Insert for cable connector and receptacle
BS1	Solder contact	PS1	Solder contact
BC1	Crimp contact	PC1	Crimp contact
BP1	PCB contact	PP1	PCB contact
SC8	Cable housing, black coated, 180° coding	MC8	Mating cable housing, black coated, 180° coding
SC8-Ni	Cable housing, nickel coated, 180° coding	MC8-Ni	Mating cable housing, nickel coated, 180° coding
SC81	Cable housing, black coated, 90° coding	MC81	Mating cable housing, black coated, 90° coding
SC81-Ni	Cable housing, nickel coated, 90° coding	MC81-Ni	Mating cable housing, nickel coated, 90° coding
SC8W	Cable housing, black coated, 180° coding, waterproof multipin connector according IP54		
RP8	Receptacle, black coated, 180° coding		
RP8-Ni	Receptacle, nickel coated, 180° coding		
RP81	Receptacle, black coated, 90° coding		
RP81-Ni	Receptacle, nickel coated, 90° coding		
SR8	Bushing and chuck type strain relief (standard)		
SR8A	Crimp type strain relief for cable O.D. 3 – 3.8 mm (Hex crimp 5.41 mm acc. IEC 803, see also page 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 crimptool AFM8
acc. M22520/2-01

+

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

Contact and connector assembly

Crimptool HX-R-BNC
Neutrik® HEX crimptool

+

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

neutriCON - Ordering Information Assembly Tools

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

miniCON - Ordering Information Assembly Tools

		Cable O.D. / Wire	Crimptool	Die/Positioner	HEX-Size/Standard
MSRC	Crimp ferrule only	4.5 – 6 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MSRC	Crimp ferrule & reduction ferrule 1	3.3 – 4.4 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MSRC	Crimp ferrule & reduction ferrule 2	2.5 – 3.2 mm	HX-R-BNC	DIE-R-BNC-PDC*	6.47 mm / IEC 803
MBC	Female crimp contact	24 AWG / 0.22 mm²	HX-CONTACT	MPOS-MBC	No. 5 / M22520/2-01
MPC	Male crimp contact	24 AWG / 0.22 mm²	HX-CONTACT	MPOS-MPC	No. 5 / M22520/2-01

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

Specification	nanoCON Series	miniCON Series	neutriCON Series
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	6 – 7 mm (SR8B)
		(crimp version MSRC)	
Wiring	0.2 mm² / 24 AWG	0.5 mm² / 20 AWG	1.0 mm² / 18 AWG
	for solid wire	for solder	for solder
	0.14 mm²	0.22 mm²	0.14 - 0.34 mm²
	26 AWG	24 AWG	22 - 26 AWG
	for stranded wire	for crimp	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)
		CuSn6	
Contact surface	0.5 µm Au	0.2 µm AuCo	0.3 µm Au hard
			alloy over 2 µm Ni
Chuck POM	●	●	●
Environmental			
Flammability	UL 94 HB	-	-	●
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

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Accessories

C o n t e n t   P a g e

Introduction

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

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

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

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

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

XLR connector

RCA phono socket

Jack with locking latch

BNC socket

C i r c u l a r   A d a p t e r s

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
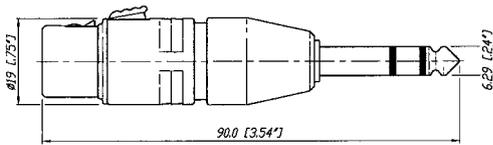
ø19 [.75"]　6.29 [.24"]　90.0 [3.54"]

NA3FM

ø20.3 [.80"]　73.7 [2.90"]

NA3FJ

ø20.3 [.80"]　81.0 [3.20"]

NA2FBNC

ø19 [.75"]　68.0 [2.68"]

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

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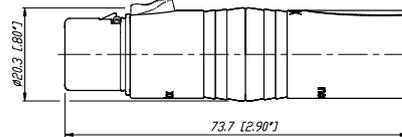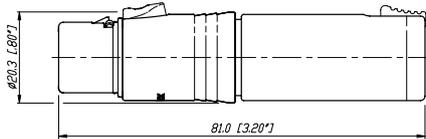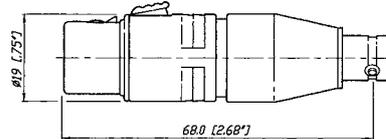
Phono socket

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

32 [1.26"]

26.0 [1.24"]   58.0 [2.28"]

NA4MP-J

32 [1.26"]

26.0 [1.24"]   81.4 [3.21"]

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

Ordering Information
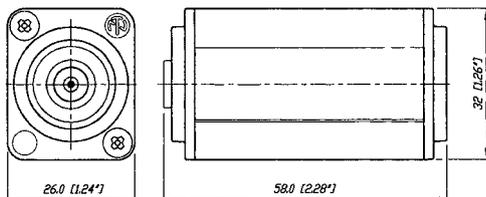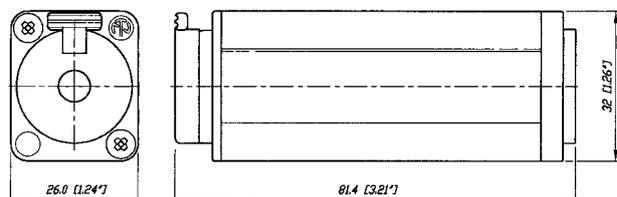
Circular Adapters

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

D Shape Adapters

NA2BBNC-D4B	BNC socket	RCA / phono socket	colour coded yellow
NA2BBNC-D9B	BNC socket	RCA / phono socket	colour coded white
NA2F-D0B-TX	3 pole XLR female	RCA / phono socket	colour coded black [4]
NA2F-D2B-TX	3 pole XLR female	RCA / phono socket	colour coded red [4]
NA2F-J-TX	3 pole XLR female	1/4" jack	ground lifted [4]
NA2M-D0B-TX	3 pole XLR male	RCA / phono socket	colour coded black [4]
NA2M-D2B-TX	3 pole XLR male	RCA / phono socket	colour coded red [4]
NA2M-J-TX	3 pole XLR male	1/4" jack	ground lifted [4]
NE8FF	etherCON	etherCON	RJ45 coupler
NL4MMX	4 pole speakON	4 pole speakON	lockable coupler
NL8MM	8 pole speakON	8 pole speakON	lockable coupler
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
[4]: Unbalanced /balanced line conversion, 1:1 transformer 200 Ω : 200 Ω

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3 pole XLR female receptacle

3 pole cable connector

BNC chassis

A E S / E B U   D i g i t a l   I m p e d a n c e   T r a n s f o r m e r   A d a p t e r s

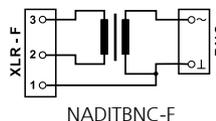
NADITBNC-F

NADITBNC-FX

NADITBNC-MX

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

NADITBNC-FX
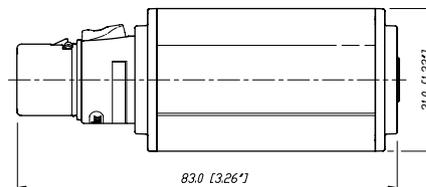
Technical Data

Maximum voltage / Max. power:	5 Vp-p / 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
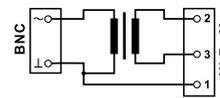
NADITBNC-F   NADITBNC-M

Ordering Information

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

5 pole male connector

5 pole female connector

All metal housing

D M X   A d a p t e r s

NA3F5M

NA3F5M

- 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   5-pole   N/C

NA3F5M

ø20.3 [.80"]   73.7 [2.90"]

F e e d t h r o u g h

NA3FDM

NA3MDF

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

NA3MDF

59.6 [2.358"]   26.0 [1.024"]   31.0 [1.220"]

NA3FDM

56.6 [2.228"]   26.0 [1.024"]   31.0 [1.220"]   PUSH
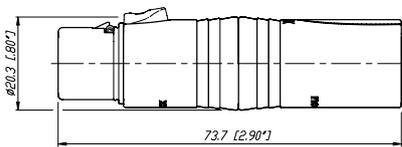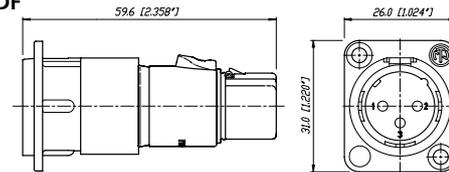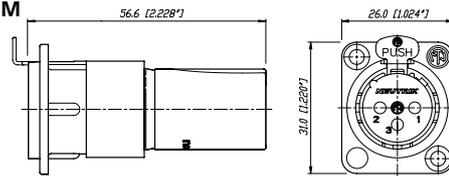
Ordering Information DMX Adapter

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	

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3 pole plug

SM2/2 switch
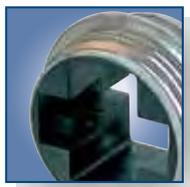
VM housing

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 Ω	Max. Input level* @ 50 Hz, 1% THD [dBu]	Applications
NTE1	1 : 1	200 : 200	200 / 2k, (600 / 10k)	-3	General purpose, splitting, XLR inline
NTE4	1 : 4	200 : 3.2k	200 / 10 K	-7	Mic input step-up
NTE10/3	1 : 3	200 : 1.8k	200 / 10 K	-7	General purpose mic input step-up
	1 : 10	200 : 20k	200 / 50 K	-6	
NTL1	1 : 1	10k : 10k	600 / 10k	+19	Line input
NTM1	1 : 1	200 : 200	200 / 2k	+7	Mic input, splitting
NTM4	1 : 4	200 : 3.2k	200 / 10k	+9	Mic input step-up

* : measured with typical source / load impedances
Wiring: NTE*: free wires, NTL / NTM*... PCB mount, shielded; Find detailed specifications on www.neutrik.com
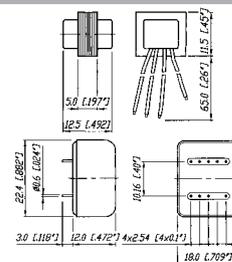
Module Selection Guide

Connector module		Coupler / housing		Transformer / switch	
NM3FXI XLR female M17x1 outside		**KM** M 17x1 inside		**NTE1** 1:1	
NM3MXI XLR male M17x1 outside		**KMX** M 17x1 inside		**NTE4** 1:4	
NM2P mono 1/4" plug M17x1 inside		**VM** M 17x1 outside		**NTE10/3** 1:3:10	
NM3P stereo 1/4" plug M17x1 inside		**VMX** M 17x1 outside		**SM2/2** 2x2 switch M17x1 outside	
NM3J stereo 1/4" jack M17x1 inside		**CM** cable outlet M 17x1 inside			
NMPMM RCA male M17x1 inside		**NA-Housing**[1] black plated screws included			
NMPMF RCA female M17x1 inside					
NM3FD-B black plated D-Shape					
NM3MD-B black plated D-Shape					
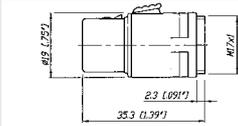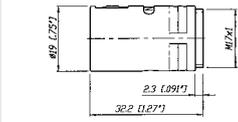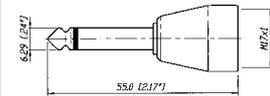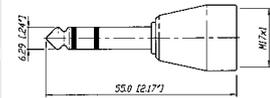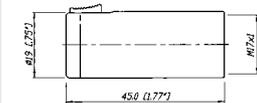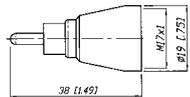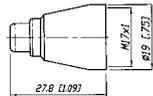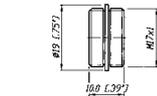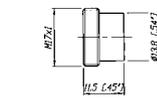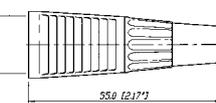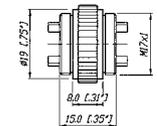
[1] ... Combinations possible with all D Shape connectors like e.g. NC3FD-L-1, NF2D, NBB75DSI, etc.

Example:

SM2/2
NTE1 (innen)
KM
NM3MXI
KMX
NM3FXI
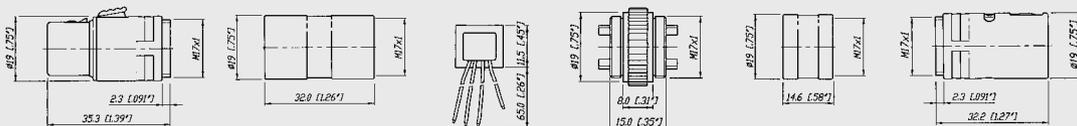
NM3FXI   KM   NTE1   SM2/2   KMX   NM3MXI

3 pole XLR with securing ring

Flexible spiral

Integrated cable outlet

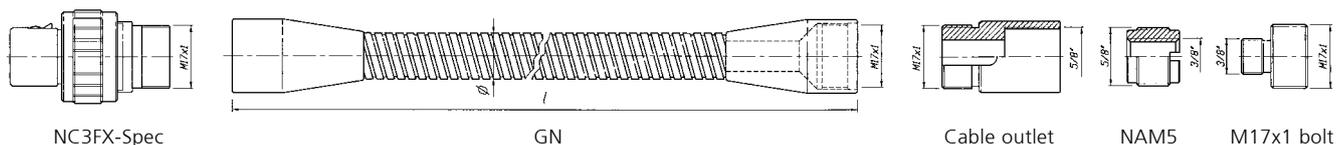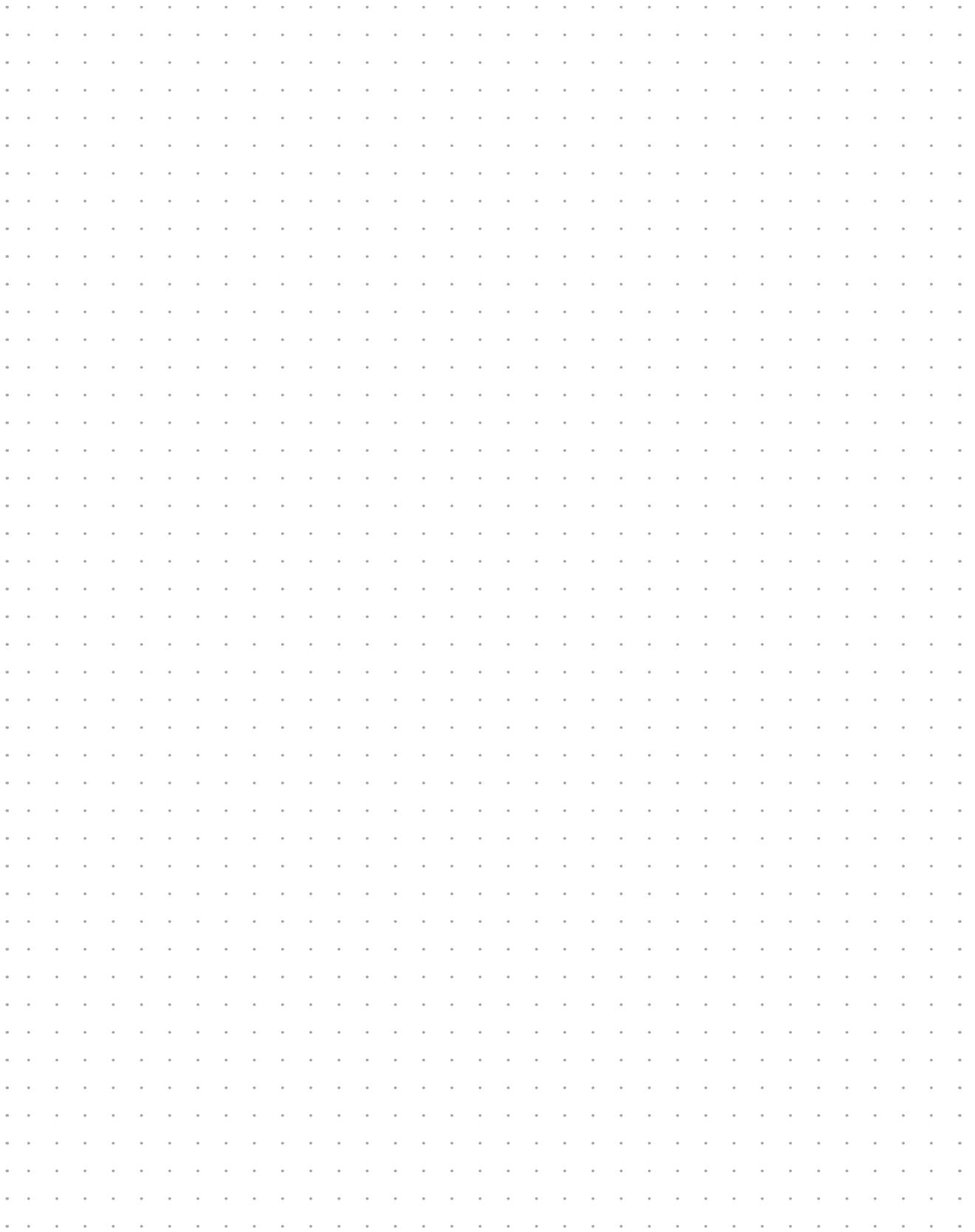## G o o s e n e c k s

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)
Gosseneck 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 [1]	
NAM5	3/8" inside thread, 5/8" 27 UNS outside thread [1]	
GF1	Mounting kit: Flange ∅ 63.5 mm including mounting bolt M17x1, 13 mm length [1]	
MSG	Mounting bolt M17 x 1, 30 mm length [1]	
	[1] : Find detailed specifications on www.neutrik.com	

GNS Set consisting of:

| NC3FX-Spec | GN | Cable outlet | NAM5 | M17x1 bolt |

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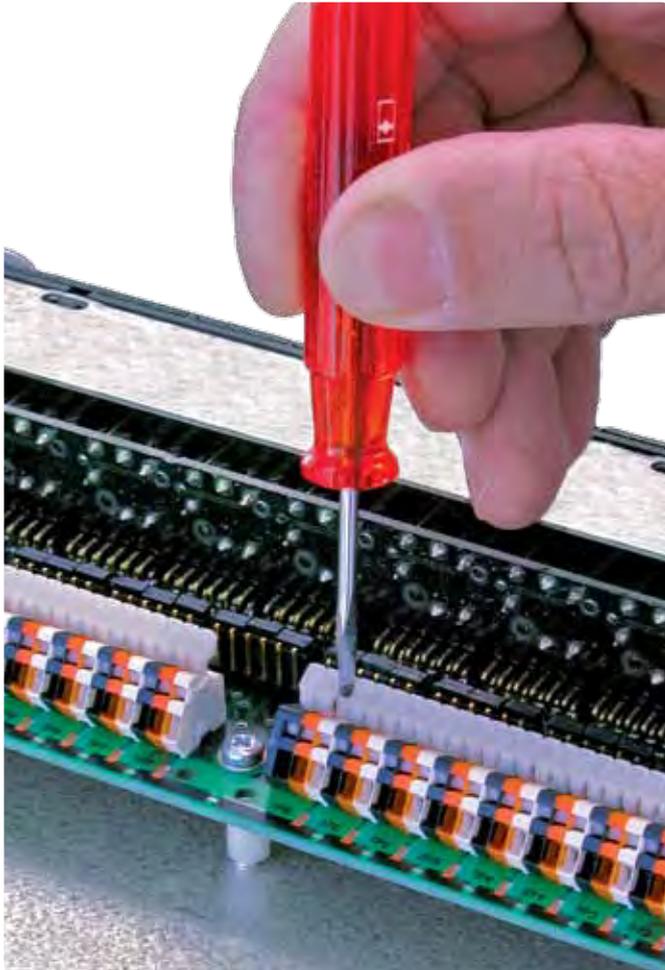# Patch Panels

Content

Introduction

Patch Panels are central switching gears between audio equipments. They are used to switch and route analog and digital audio signals from and to equipments in recording or broadcast studios, OB vans, churches, theatres, stadiums, arenas, etc.

Neutrik® Patch Panels are available in a 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.

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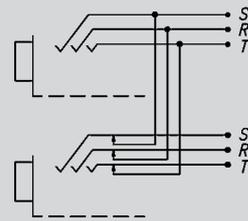
Audio Normalling

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.
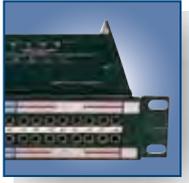
|					
Robust front design	Easy assembly	Jack-pair	IDC terminals	Push terminals	ELCO connectors

N P P A - S e r i e s — 9 6 B a n t a m (T T) J a c k s

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

innovative **solutions** | superior **quality**
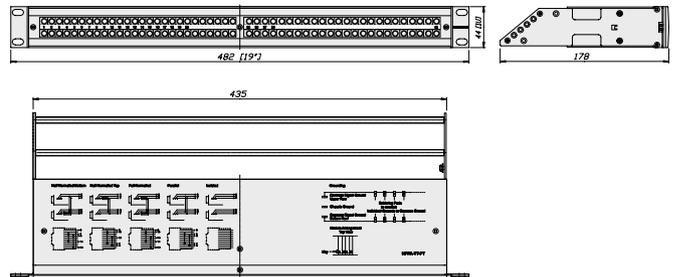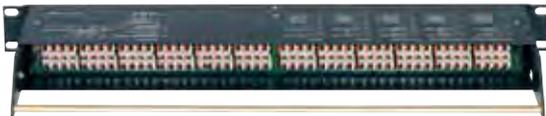
Design Criteria

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.
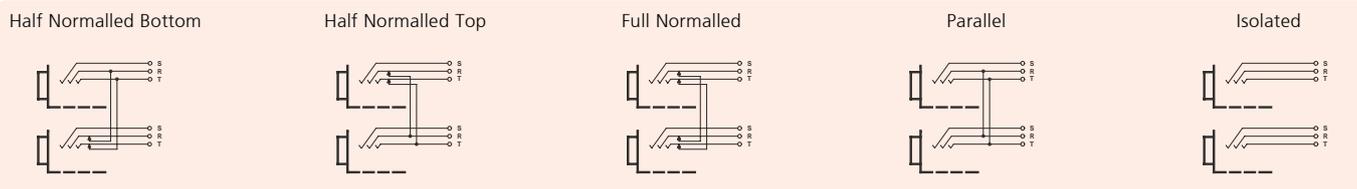
Configuration

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.

| Half Normalled Bottom | Half Normalled Top | Full Normalled | Parallel | Isolated |

Grounding

The flexible grounding system provides the following versions:

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

Wiring Terminations

TT patch panels offer different choices of wiring:

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

The spring loaded terminal blocks enable fast and easy wiring. No soldering and screwing necessary. Simply insert the stripped wire after pressing down the white key. Terminals accommodate stranded wires up to AWG 20 (0.5 mm^2) and solid wires up to AWG 18 (0.75 mm^2). Push terminals are gas tight connections.

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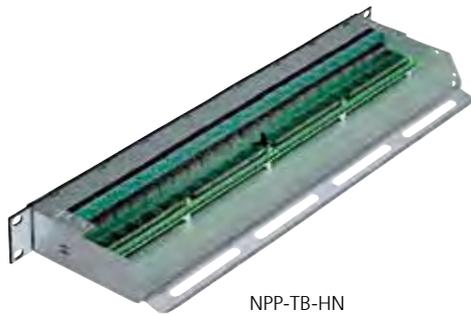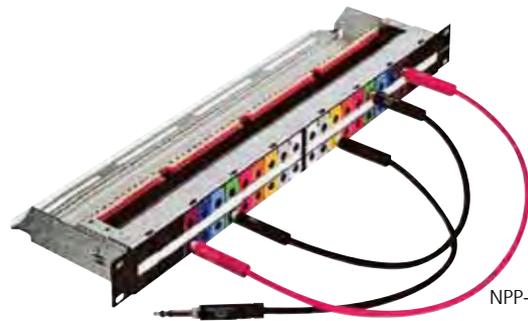
Individual colour coding

Galvanized metal housing

N P P - T B - S e r i e s   –   4 8   B - G a u g e   J a c k s

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

435 [1.713"]

483 [19.016"]

442 [17.402"]

NPP- S (Accessories)

NPP- S

200 [7.87"]

140 [5.51"]

43.5 [0.171"]

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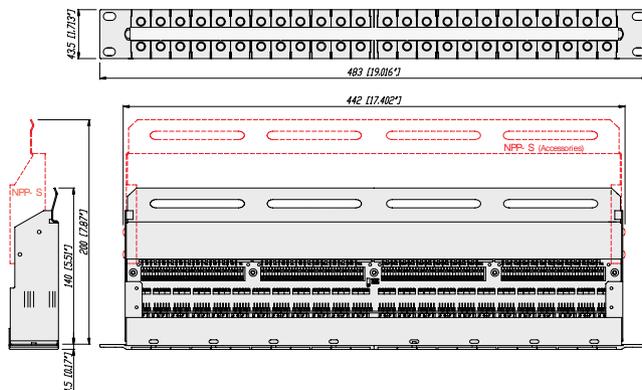
Design Criteria

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.
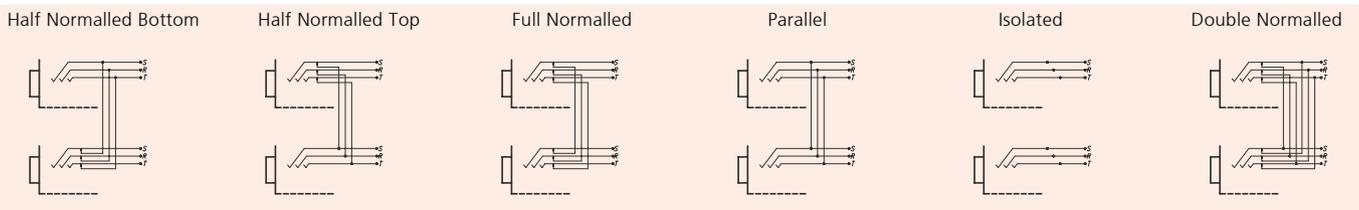
Configuration

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.

| Half Normalled Bottom | Half Normalled Top | Full Normalled | Parallel | Isolated | Double Normalled |

Grounding

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

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

Wiring Terminations

TB patch panels are available with:

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

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

Ruggedized metal
housing

Imprinted grounding
instruction

Module
NYS-SPCR1

1/4" Patch Panel

NYS-SPP-L1

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

Dimensional Drawing
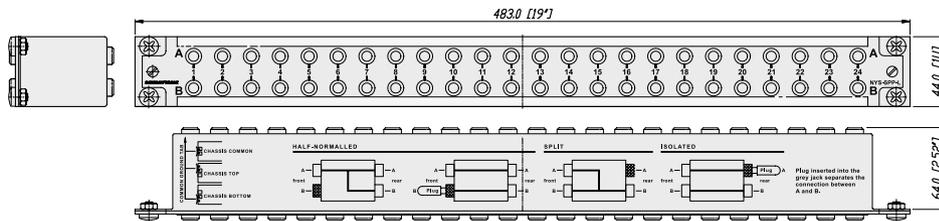
Design Criteria

The NYS-SPP-L1 is a economical and remarkable sleek designed 1/4" modular patch panel for 19" rack mount (19" x 1U) with a reinforced metal housing. Each of it's 48 PCB wired balanced channels (24 front pairs and corresponding 24 rear pairs) can either be grounded separately or in groups of inividually chooseable channel numbers (detailed information see below).
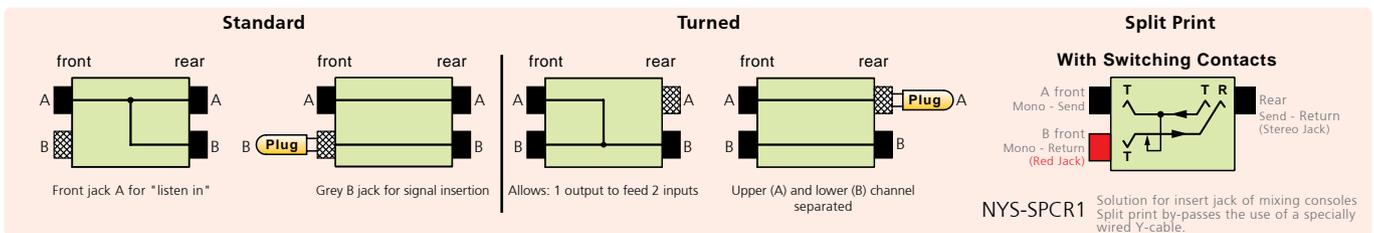
The PCBs are held securely in place by being clamped between the front and the rear panel, this grants an easy reconfiguration of the patch panel without the danger of loosing any small parts (e.g. nuts). The grey jack serves as an easy and distinguishable normalling identification.

Configuration

Standard configuration, when delivered, is Half Normalled bottom row. The configuration can easily be changed by just flipping the individual PCB. Inserting a plug into the

grey jack will always isolate the top against the bottom row. Alternative solution for send / return applications by use of NYS-SPCR1 module (see accessories below).
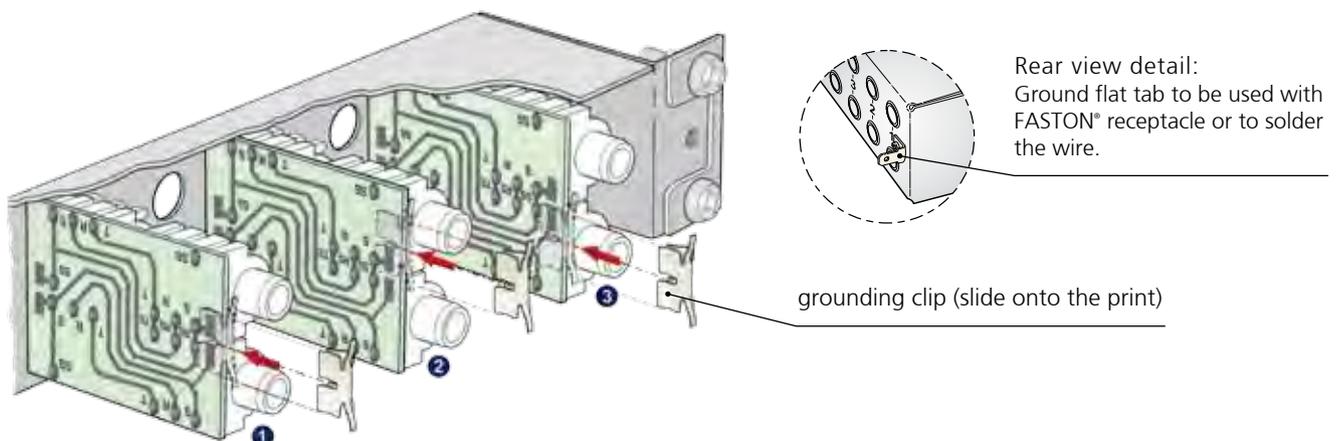
The following configurations are available:

Standard	Turned	Split Print

Standard

front — rear

A — A
B — B

Front jack A for "listen in"

front — rear

A — A
B Plug — B

Grey B jack for signal insertion

Turned

front — rear

A — A
B — B

Allows: 1 output to feed 2 inputs

front — rear

A — Plug A
B — B

Upper (A) and lower (B) channel separated

Split Print

With Switching Contacts

A front — Mono - Send — T — T R — Rear — Send - Return — (Stereo Jack)

B front — Mono - Return — (Red Jack) — T — T

NYS-SPCR1 — Solution for insert jack of mixing consoles. Split print by-passes the use of a specially wired Y-cable.

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.
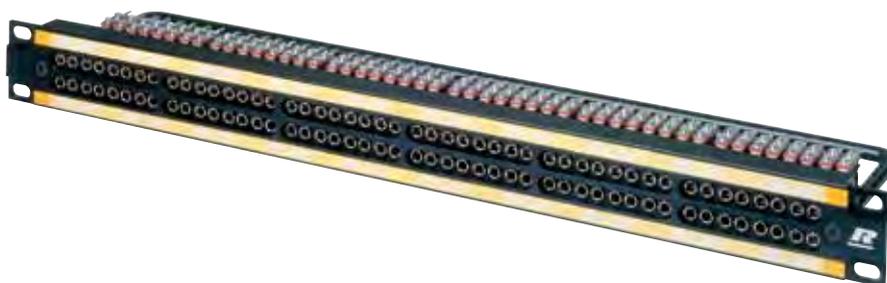

Rear view detail:
Ground flat tab to be used with FASTON® receptacle or to solder the wire.

grounding clip (slide onto the print)

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

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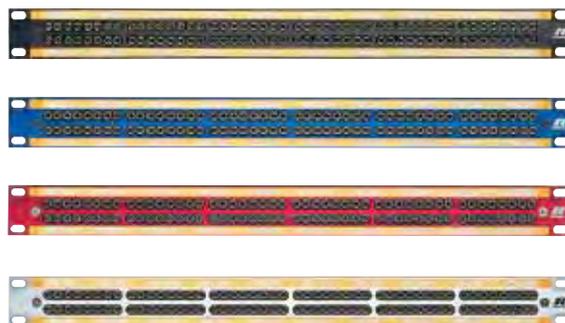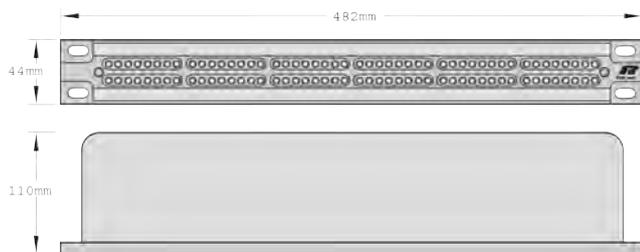
Die-cast frame

Tinned tags

MAJ 501 Bantam Jack Socket
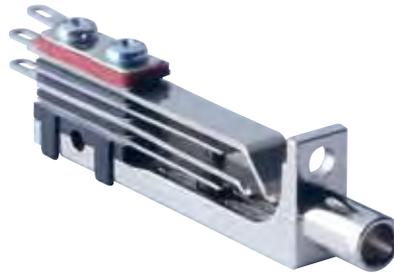
- 5-point Bantam jack socket (Tip, Ring, Sleeve, Tip Normal, Ring Normal)
- Rigid nickel plated die-cast frame, featuring considerable frame strength eliminating physical distortion when plug is inserted
- Nickel-silver spring contacts, palladium plated switch contacts
- Tinned tags for easy soldering

Termination

End Elevations

15.3mm   6.4mm   5.6mm

7.4mm   4.0mm

Plan Elevations

0.75 mm

1.95 mm

6.35mm

9.5mm   48.4mm

Circuit Detail

S
R
T
RN
TN
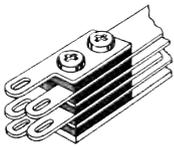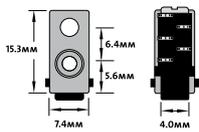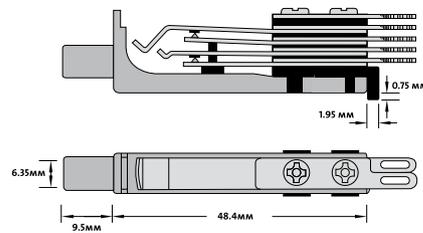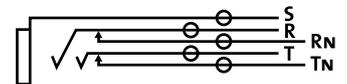
B-Gauge patchbay

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

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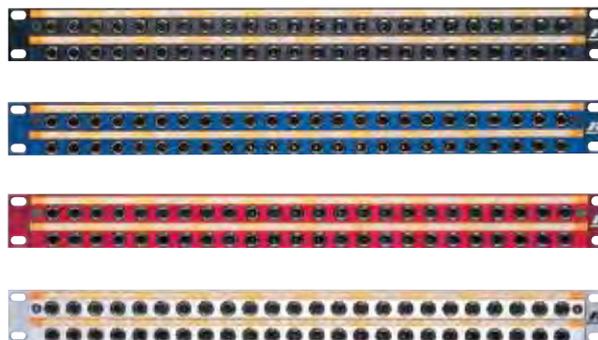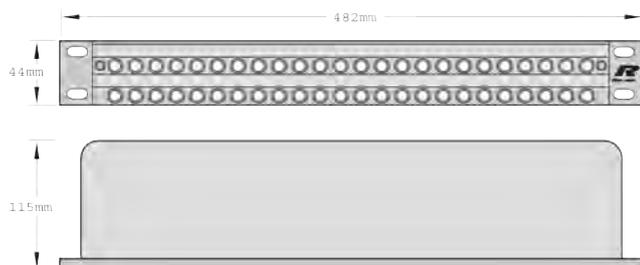
Solder lugs

LFJ 501 B-Gauge Jack Socket

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

LFJ 501

Circuit Detail

Plan Elevations

10.0mm
7.5mm
15.0mm

11.4mm
14.1mm
63.4mm

Specifications

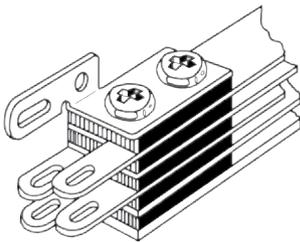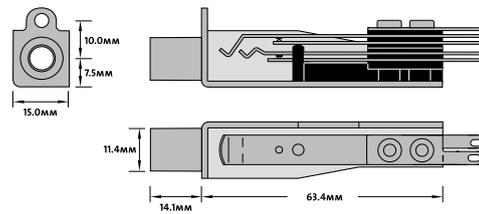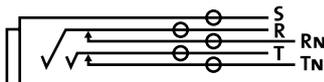| Specifications		NPPA Series	NPP-TB Series	NYS Series	MA 96 and XPM 96	LF 48 Series
Electrical						
Contact resistance:		< 20 mΩ	< 10 mΩ	< 10 mΩ	< 24 mΩ	< 20 mΩ
Switch contact resistance:		< 25 mΩ	< 15 mΩ	< 10 mΩ	< 26 mΩ	< 15 mΩ
Insulation resistance:	> 1 GΩ @ 500 V dc	●	●	●	●	●
Dielectric strength:	> 500 V ac	●	●	●	●	●
	> 1`000 V dc	●	●	●	-	-
Frequency range:	DC to > 50 MHz	●	●	●	●	●
Channel separation:	> 100 dB @ 10 kHz, 600 Ω terminated	●	●	●	●	●
	> 40 dB @ 6 MHz, 110 Ω terminated	●	●	●	●	●
AES / EBU Signals (digital) suitable:		●	●	●	●	●
Handles Phantom Power:		●	●	●	●	●
Mechanical						
Life time:	> 20`000 cycles	-	-	-	●	●
	> 10`000 cycles	-	-	●	-	-
	> 5`000 cycles	●	●	-	-	-
Insertion force:	< 25 N	-	-	-	●	●
	< 20 N	-	-	●	-	-
	< 10 N	●	●	-	-	-
Withdrawal force:	> 10 N	●	●	●	●	●
	> 8 N	●	●	-	-	-
Dimensions:	482 x 44 mm (19" x 1U)	●	●	●	●	●
Depth:		178 mm (7")	140 mm (5.5")	64 mm (2.52")	110 mm (4.33")	115 mm (4.53")
Dimension Patch Box:	168 x 77 x 77 mm (6.0 x 3 x 3")					
Temperature range:	- 30 °C to + 80 °C	●	●	●	●	●
Mating plug:		4.4 mm (0.173")	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" section "Patch Panels".

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Part Number	Description

NPPA Series

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

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

Pre-configured Jack-Pairs

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

Accessories

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

NPP-TB Series

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

Accessories

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

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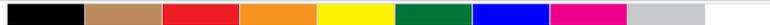
NYS SPPL

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

Part Number	Description

MA96 and XPM-96

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

Bantam Jack Socket

MAJ-501	Standard Solder Tag

LF48 Longframe B-Gauge Patchbays

LF48-1A	48 way, Red front panel
LF48-1D	48 way, Blue front panel
LF48-1O	48 way, Black front panel
LF48-1S	48 way, Silver front panel
LFJ-501	Longframe B-Gauge jack socket, standard solder tag
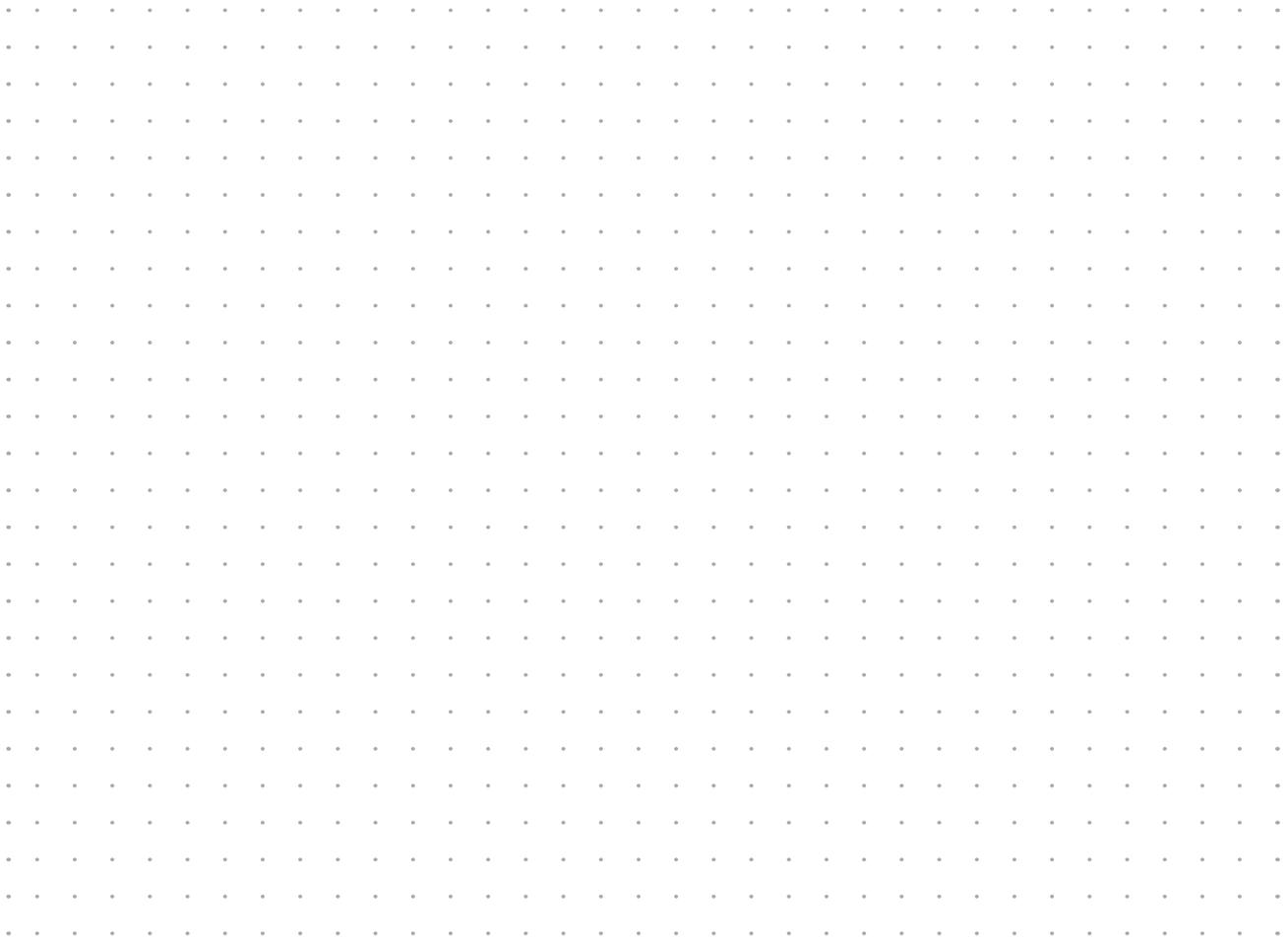
Digital Wireless Audio Network
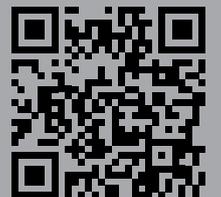
Content

Introduction

Neutrik, the worldwide leading supplier of professional entertainment connector products establishes yet another milestone. Today, you can hardly imagine any stage, concert or public event without wireless applications. Therefore, Neutrik undertook intensive research looking into the subject of wireless audio data transmission.

The vision of a wireless transmission system between two connectors and to transmit audio signals in studio quality has been turned into reality by Neutrik with the help of the innovative DIWA technology and the product XIRIUM, a digital, wireless, audio network.

NEUTRIK®, opticalCON®**, neutri**CON®**, mini**CON®**, nano**CON®**, power**CON®**, Profi®, speak**ON®**, silent**PLUG®**, crystal**CON®**, ether**CON®**, rear**TWIST®**, XIRIUM®, DIWA® are registered trademarks of Neutrik AG.**

NX4TRX Base station

NX1TX (transmit)   NX1RX (receive)

NX1TX-T (transmit)   NX1RX-T (receive)

DiWA
DIGITAL WIRELESS AUDIO

XIRIUM
DIGITAL WIRELESS AUDIO NETWORK

DIWA – the technology

With DIWA (Digital Wireless Audio) Neutrik has developed a technology which stands for digital data transmission without data compression but provides high-level sound quality. Though wireless, the audio signals are transmitted by DIWA in cable quality. As a result no compromise from an audio point of view needs to be made in situations where no cable can be used. The technical data proves this impressively: 24 bit / 48 kHz sampling, THD (total harmonic distortion) < 0.01 % @ 1 kHz, SNR (signal-to-noise ratio) > 105 dB @ 1 kHz (dynamic) and last but not least a very short delay of 3 msec.

Choosing the 5 GHz frequency band eliminated the need for time-consuming approval processes and extensive channel management. A transmission and receiving protocol specifically developed for DIWA as well as patented error correction functions guarantee a robust and noiseless transmission of the data packet and best functionality.

XIRIUM – the product

With the digital, wireless audio connetor network XIRIUM, the first product based on the DIWA technology, Neutrik ventures a glimpse into the future. XIRIUM combines digital transmission and receiving lines in one system and delivers the highest sound quality, unique reliability and ease of handling.

Plug and Play – due to the ease of set-up and the automatic frequency management, the search for free frequencies and the selection of channels no longer apply. With XIRIUM a bi-directional audio network can be built up in which the signal sources and signal receiver can be integrated wirelessly.

A 4 channel basis unit (XIRIUM TRX) together with mobile transmission (XIRIUM TX) and receiving units (XIRIUM RX) give first access to the XIRIUM network. With an extension unit the network can easily be upgraded to a total of 8 channels. Allocation and the selection of input and output channels are flexibly configurable and allow the versatile use of the network.

Features and Customer Value

Flexible multi-tool for wireless audio networking

The professional multichannel wireless network XIRIUM combines digital transmit and receive paths with the utmost sound quality, unique reliability and easy installation and operation. It is based on the future-oriented DIWA (Digital Wireless Audio) technology within the 5 GHz frequency band and will allow you to set up audio connector networks in which sources and receiving units can be integrated wirelessly.

PURE SOUND

Data transmission in studio quality

The XIRIUM transmits uncompressed data with a sampling rate of 48 kHz and with a resolution of 24 bit within the 5 GHz band. THD (total harmonic distortion) < 0.01% @ 1 kHz, SNR (signal-to-noise ratio) (dynamic) > 105 dB @ 1 kHz, latency 3 msec.
This means that audio signals are transferred with a delay of 3 msec and uncompressed in studio quality.

ROBUST TRANSMISSION

Secure and noiseless operation

Transmission and receiving protocol specifically developed for DIWA, FEC (forward error correction) and concealment algorithms correct any irregularities, antennas – diversity.

innovative **solutions** | superior **quality**

PLUG & PLAY

Easy installation and operation

Operation within the 5 GHz band, no licenses required, automatic frequency management, memory functions.

MULTIFUNCTIONAL USE

Upgrade to your needs

DIWA not only supports more than one transmission channel, but enables the set-up of multichannel networks (at present up to 8 audio channels, in broadcast mode - 24 lines).

Send and receive

Networks based on the DIWA technology can send and receive audio signals. Thus, both signal sources (instruments, microphones etc.) and signal receivers (loudspeakers, mixers etc.) can be integrated in a digital wireless system.

Find more details in the XIRIUM Guide and on www.neutrik.com.
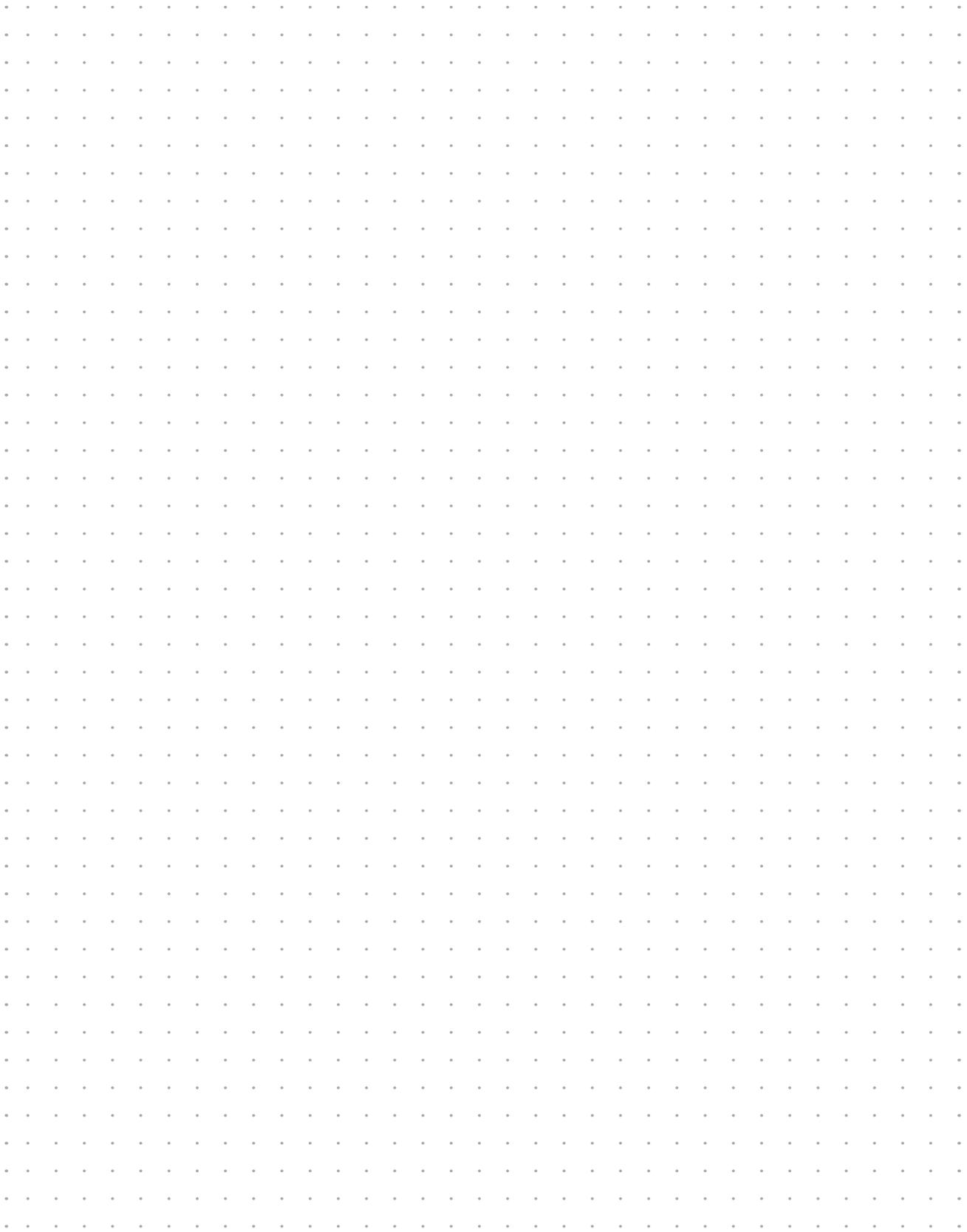
POS-Packaging

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-BAG-POS
NC3MXX-BAG-POS
NC3FXX/MXX-POS
NC3FXX/MXX-BAG-POS
NF2C-B2-POS
NL2FX-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

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 cm	1	inch
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 meter	10	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

NEUTRIK®, **optical**CON®, **neutri**CON®, **mini**CON®, **nano**CON®, **power**CON®, **Profi**®, **speak**ON®, **silent**PLUG®, **crystal**CON®, **ether**CON®, **rearTWIST**®,**XIRIUM**®, **DIWA**® are registered trademarks of Neutrik AG.

Neutrik Product Line

XLR Connectors

| X Series | PX Series | XX Series | RX Series | convertCON | XX-HD Series | XS Series | A Series | AA Series | B Series | D Series | DL Series | DLX Series | P Series | MPR Series | Combo Series | Combo A Series |

Plugs & Jacks

| silentPLUG | timbrePLUG | ultimatePLUG | MIL/B-Gauge Type Plugs | 3.5 mm Plug | 0.173" Bantam | Cable Jack | Chassis Jacks | Vertical Jacks | Slim-Line | M-Line | Stacking Jacks | Phono - Profi | Phono - Socket |

Loudspeaker Connectors

| speakON SPX Series | speakON FC Series | speakON Adapter | speakON Chassis Connectors | speakON Combo | speakON STX Series | speakON STX Chassis |

Data Connectors

| opticalCON Cable & Chassis Connectors | opticalCON Breakout Box | opticalCON D-Shape Z-Panel & powerMONITOR | etherCON Cable & Chassis Connectors | etherCON CAT6 Cable & Chassis Connectors | USB Cable & Chassis Connectors | HDMI Cable & Chassis Connectors | Firewire Chassis Connector |

75 Ohm BNC Connectors

Circular Connectors

| rearTWIST | Tiny Cable Jack | Bulkhead Jacks | Chassis | Female Cable Jack | nanoCON Cable & Chassis Connectors | miniCON Cable & Chassis Connectors | neutriCON Cable & Chassis Connectors |

powerCON Connectors

| powerCON TRUE1 Cable & Chassis Connectors | powerCON Cable & Chassis Connectors | 32 A powerCON Cable & Chassis Connectors |

Accessories

| Circular Adapters | D Shape Adapters | DMX Adapters | AES / EBU Digital Impedance Trasformer Adapters | XLR Feedthrough | Modules & Audio Transformers | Gooseneks |

Patch Panels

| NPPA Series - 96 Bantam (TT) Jacks | 1/4" Patch Panel | LF 48 B-Gauge Patchbays |

Digital Wireless Audio Network

XIRIUM - Mobile Units and Base Station

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