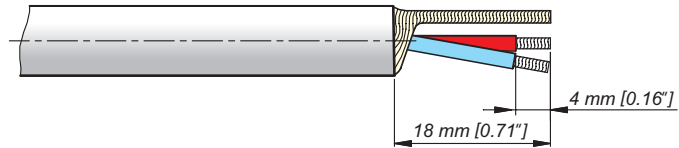


					Werkstoff:	Massstab:		Datum	Name
				*Lieferant darf ohne Ruecksprache nicht geaendert werden		2:1	Gezeichnet	26.05.98	Alinjak
				Zeichnung urheberrechtlich geschuetzt (DIN 34) (C)			Geprueft		
				Benennung:	X-Serie		Gesehen		
					NC5MX		Ersetzt durch:		Blatt
							Ersatz fuer:		von Blatt
							Zechn. Nr.		
Ind.	Aenderung	Datum	Name	<b>NEUTRIK AG FL-9494 SCHAAN</b>			3102 St 08 35		

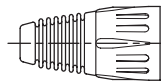
# XLR Cable Connector Assembly Instructions

## CABLE PREPARATION

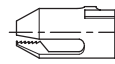


## ORDER OF ASSEMBLY

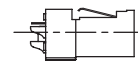
**NC\*FX**



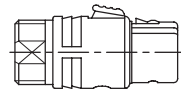
*bushing*



*chuck*

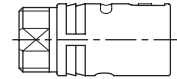
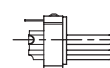
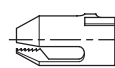
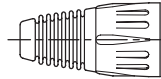


*insert*



*housing*

**NC\*MX**



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Draft. Nr.: 3102M1101  
Update: 23.01.2007



**NEUTRIK**  
CONNECTING THE WORLD

Neutrik® Part Number Guide

NC3FAH1-B-0-D

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

Definitions, Abbreviations & Useful Information see page 151.



## XLR Connectors



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**Introduction**

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

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



Ergonomic latch design    Neutrik hologram    Inside view    Circumferential ground shield contact

**XX Series**



NC3FXX    NC6MXX-B

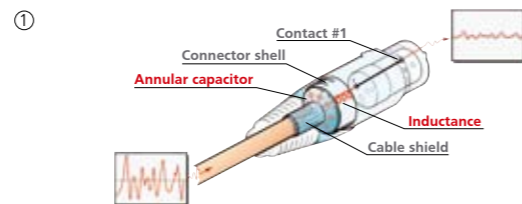
**EMC-XLR Series**



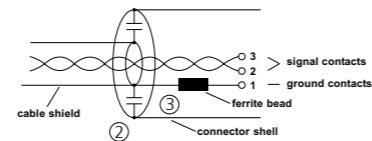
NC3FXX-EMC    NC3MXX-EMC

- 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.

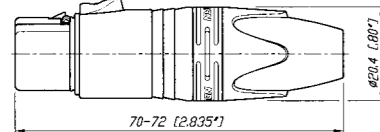
- 3-pole male / female XLR cable connector with integrated capacitive shield to shell connection to avoid RF-interference and LF-noise
- 360° shield contact on female connector ensures best possible shielding and chassis contact
- Patent



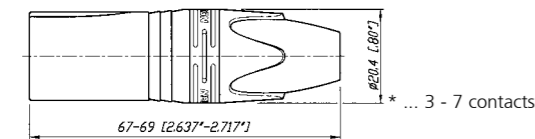
- ① Design guarantees a continuous RF-shield connection but avoids ground loops (no LF-shield connection)
- ② Circular capacitor enables low-inductive shield connection to connector housing
- ③ Cable shield - PIN 1 connection includes EMI suppression bead (blocks high frequencies)



**NC\*FXX**

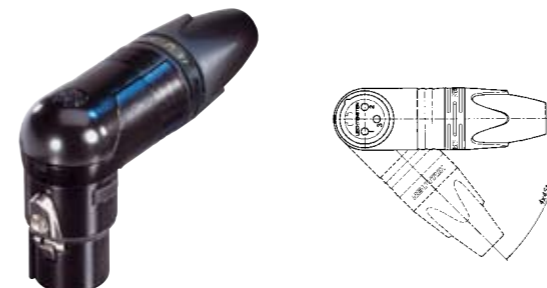


**NC\*MXX**



Right angle male connector

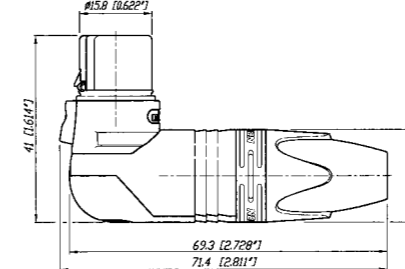
**RX Series**



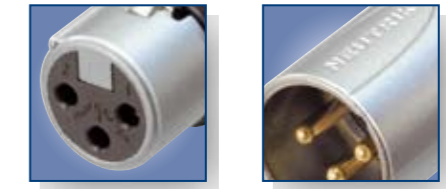
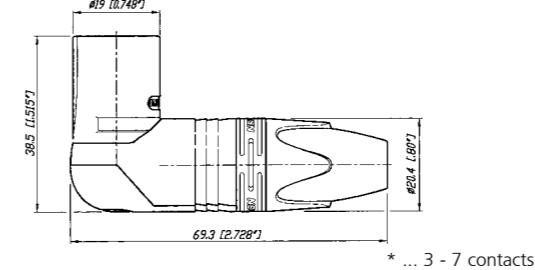
NC3FRX-BAG    Outlet position

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

**NC\*FRX**



**NC\*MRX**



High temperature resistant insulator    Velour chromium housing

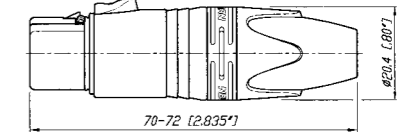
**XX-HE Series**



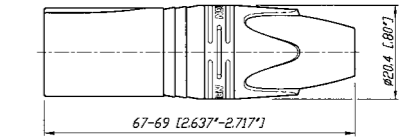
NC3FXX-HE    NC3MXX-HE

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

**NC3FXX-HE**



**NC3MXX-HE**





Large cable outlet



Ergonomic latch design



Neutrik hologram design



Crystal stones



convertCON male - female

**XX-14 Series**

**XX Crimp Series**

**crystalCON**

**convertCON**



NC3FXX-14

NC3MXX-14-BAG



NC3FXX-BAG-HA

NC3MXX-HA



NC3FXX-B-CRYSTAL

NC3MXX-B-CRYSTAL



NC3FM-C-B

NC3FM-C

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

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

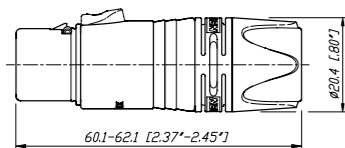
- 3 pole XLR XX-Series embellished with CRYSTALLIZED™ – Swarovski Elements
- Exclusively with gold plated contacts, and black chrome housing
- Fancy, noble, valuable, attractive package - an eye-catcher
- With all benefits of the XLR XX-Series

- 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

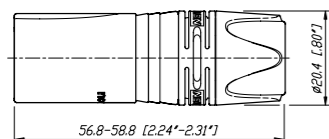


Convert male - female and vice versa

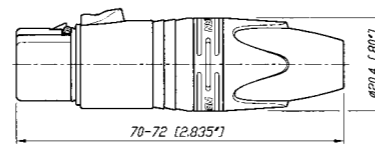
NC3FXX-14



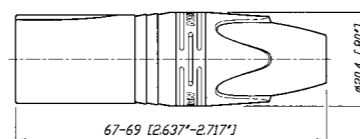
NC3MXX-14



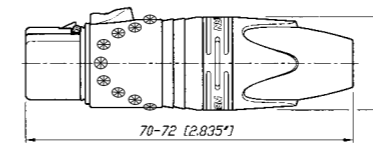
NC3FXX-HA



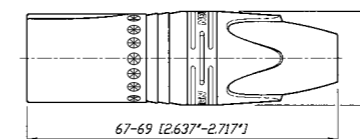
NC3MXX-HA



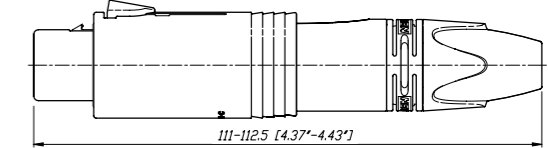
NC3FXX-B-CRYSTAL



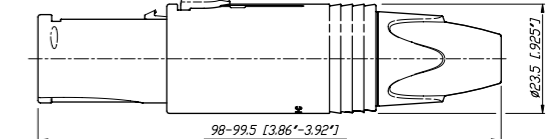
NC3MXX-B-CRYSTAL



NC3FM-C: Position Female

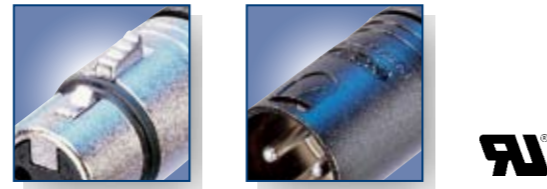


NC3FM-C: Position Male





Rubber sealing protection  
Neutrik original design



Female locking  
Male metal locking window



Rubber sealing protection  
Metal bushing  
Coding ring

**XX-HD Series**

**X Series**

**X-HD Series**

**XCC Series**



NC3FXX-HD-D  
NC3MXX-HD-B-D



NC3FX  
NC3MX + BSX-5



NC5FX-HD  
NC4MX-HD



NC3FXCC

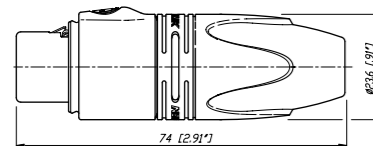
- "Heavy duty" cable connector for outdoor use
- Rubber sealing jacket protects against water ingress and mechanical shock
- Dust and water protected according IP 67 in mated condition
- NC3FXX-HD mates with NC3MPR-HD chassis connector and NC3MXX-HD cable connector
- Gold contacts
- Chuck type strain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

- 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

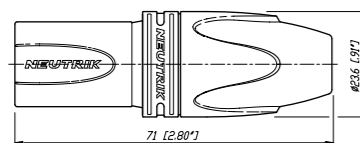
- "Heavy duty" cable connectors for outdoor use
- All metal design, male stainless steel
- NC\*FX-HD mates with NC\*MPR-HD chassis connector and NC\*MX-HD
- Dust and water protected according IP 65 in mated condition
- Available in 3 - 5 pin configuration
- Metal bushing including O-ring

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

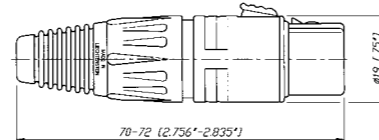
NC3FXX-HD-D



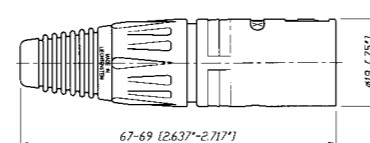
NC3MXX-HD-D



NC\*FX

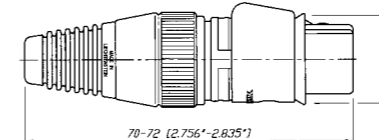


NC\*MX

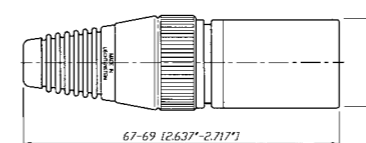


\* ... 3 - 7 contacts

NC\*FX-HD

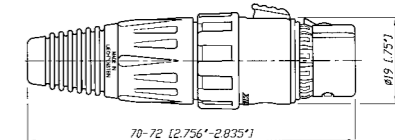


NC\*MX-HD

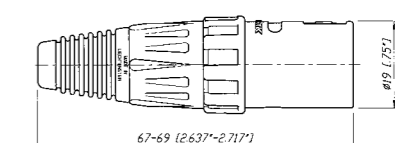


\* ... 3 - 5 contacts

NC3FXCC



NC3MXCC





Switch activating ring



Locking ring

## FXS Series



NC3FXS

## FX-SPEC Series

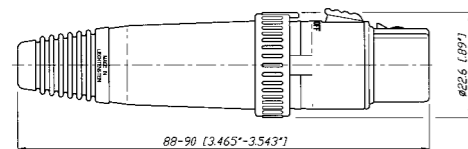


NC3FX-SPEC

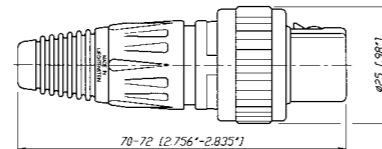
- Available exclusively in a 3 pin female configuration
- Features a noiseless ON/OFF switch which shorts pins 2 and 3 together muting the signal voltage between conductors
- For use with a microphone that does not have its own On/Off switch
- Rugged zinc diecast shell, long lasting and durable
- Chuck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

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

NC3FXS



NC3FX-SPEC



### Specification

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

XX-14, CRYSTAL: <sup>1)</sup> ... 3 pole <sup>2)</sup> ... XX-14: Cable O.D. max. 8.5 mm



Specification	X Series	XCC Series	X-HD Series	FXS Series	FX-SPEC Series
<b>Electrical</b>					
Number of contacts	3 - 7	3	3 - 5	3	3
Contact resistance $\leq 3 \text{ m}\Omega$	•	•	•	•	•
Insulation resistance - initial: $> 2 \text{ G}\Omega$	•	•	•	•	•
- after damp heat test: $> 1 \text{ G}\Omega$	•	•	•	•	•
Dielectric strength 1500 V dc	•	•	•	•	•
Cable shield-shell connection choosable	•	-	•	-	•
determined	-	crimp	-	-	-
Shielding effectiveness $> 55 \text{ dB @ } 1.3 \text{ GHz}$	-	•	-	-	-
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: $\leq 4 \text{ pF}$	•	•	•	•	•
4, 5, 6 pole: $\leq 7 \text{ pF}$	•	-	•	-	-
7 pole: $\leq 9 \text{ pF}$	•	-	-	-	-
Rated Voltage 50 V ac	•	•	•	•	•
<b>Mechanical</b>					
Lifetime $> 1'000$ cycles	•	•	•	•	•
Insertion / withdrawal force $\leq 20 \text{ N}$	•	•	•	•	•
Cable O.D. range 3.5 - 8.0 mm	•	5.4 - 6.2 mm	•	3.5 - 7.0 mm	•
Max. wire size 3 pole: 2.5 mm <sup>2</sup> / AWG 14	•	-	•	-	•
4 pole: 1.5 mm <sup>2</sup> / AWG 16	•	-	•	-	•
5, 6, 7 pole: 1.0 mm <sup>2</sup> / AWG 18	•	-	•	-	-
Crimp tool: 6.5 mm Hex die (size "E" acc. to IEC 60803)	-	•	-	-	-
Crimp XX: 0.22 - 0.34 mm <sup>2</sup> / AWG 24 - 22	-	-	-	-	-
<b>Material</b>					
Shell Zinc diecast (ZnAl4Cu1)	•	•	-	•	•
(gal Ni or black Cr)	-	•	•	•	•
Stainless steel	-	-	•	-	-
Insert Polyamide PA 6.6 30% GR	•	•	•	•	•
Contacts - female 3 pole: Bronze (CuSn8)	•	•	•	•	•
- female 4 - 7 pole & male: Brass (CuZn39Pb3)	•	•	•	-	-
Contact surface Silver gal 2 $\mu\text{m}$ Ag	•	•	Au	•	Au
or Gold gal 0.2 $\mu\text{m}$ Au hard alloy over 2 $\mu\text{m}$ 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)	-	-	-	-	•
<b>Environmental</b>					
Operating temperature -30°C to +80°C	•	•	•	•	•
Flammability UL 94 HB	•	•	•	•	•
Protection class IP 40	•	•	IP 65	•	•
Solderability complies with IEC 68-2-20	•	•	•	•	•
Manufacturing Standard IEC 61076-2-103	•	•	•	•	•

Ordering Information for Cable Connectors

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

Accessories and Assembly Tools

Detailed information on page 31 and 36.

- \* ..... Number of Contacts
- \*\* ..... Nickel or Black
- D<sup>1</sup> ..... Bulk packed, to be ordered in multiples of 100 pcs.
- <sup>2</sup> ..... Switchcraft Equivalent

## Ordering Information for Cable Connectors

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

## Accessories and Assembly Tools

Detailed information on page 31 and 36.

\* ..... Number of Contacts    \*\* ..... Nickel or Black    -D<sup>1</sup> .... Bulk packed, to be ordered in multiples of 100 pcs.    <sup>2</sup> ..... Switchcraft Equivalent



Colored coding ring



Lateral right PCB mount



Locking release tab



Ground contact

## A Series



NC3FAH-0



NC3MAV



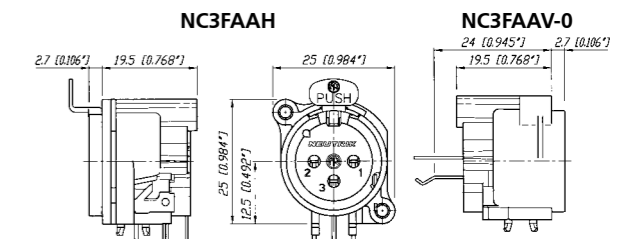
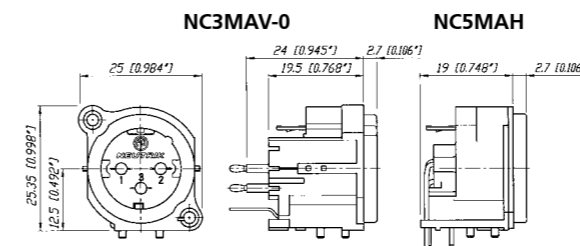
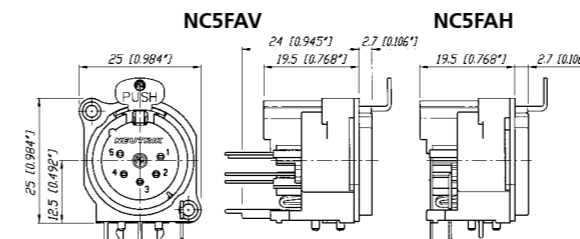
NC3FAAV2



NC3MAAH-1

- 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

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



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

Female:

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

Male:

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



Circumferential metal ring



Front panel grounding



Tear drop contact design



Incorporated switch



Insert removable



**B Series**

**BA Series**

**A/B Series 5-pole switch**

**D Series**



NC3FBV



NC3MBV



NC3FBAV2



NC3MBAH



NC5FAV-SW



NC5MAV-SW



NC3FD-H



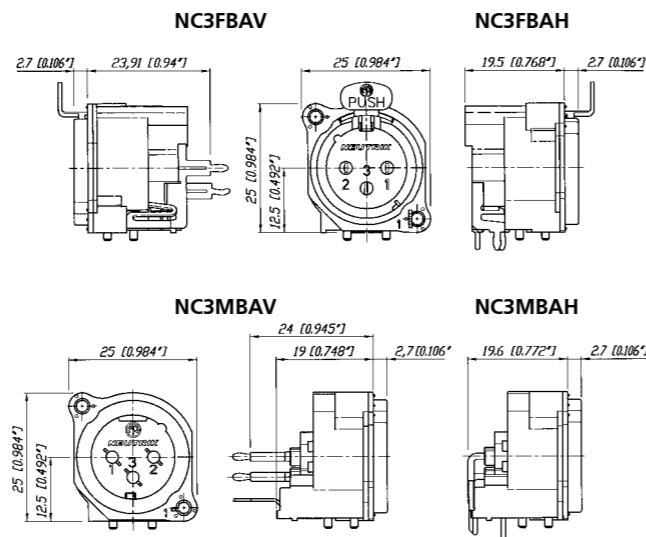
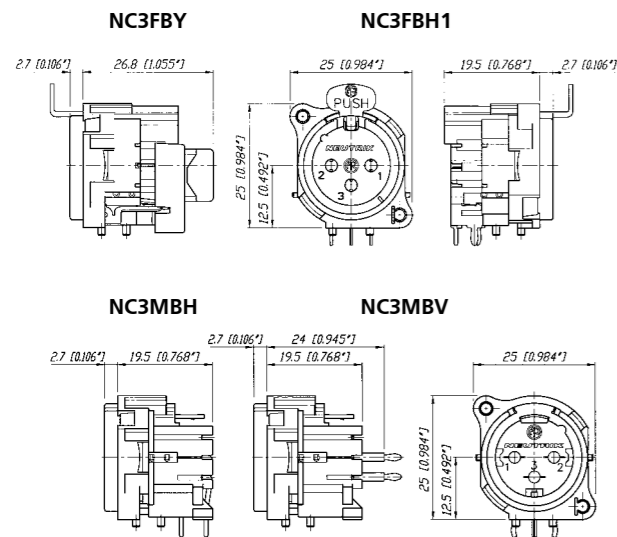
NC3MD-V

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

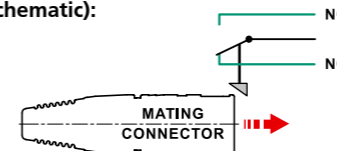
- Economical version of B-Series product with modified metal flange
- Fastening with A-Screw-1-8
- Available in 3, 4 and 5 pole version with nickel metal ring
- Rear mount only

- 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

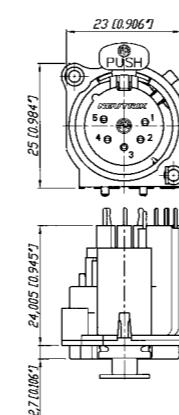
- "D" Shape metal shell
- Optimal RF protection using 3 shield contacts
- Horizontal and vertical PCB mount with separate ground contact
- Mounting holes with M3 threads available
- 2 piece connector, insert is removable from shell
- Front locked / unlocked insert
- Special version with screw termination



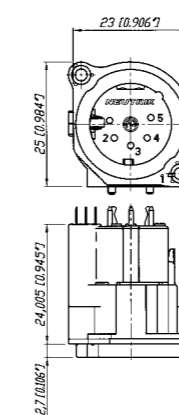
Inserting (Schematic):



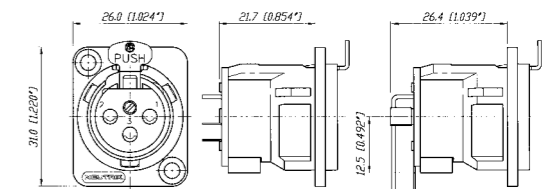
NC5FAV-SW



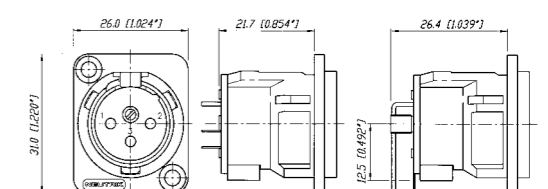
NC5MBV-SW



NC3FD-V / NC3FD-H



NC3MD-V / NC3MD-H





Locking release tab



Horizontal PCB mount



Ground shielding



Crimp type contact



Circumferential ground spring

**DL Series**

**DLX Series**

**DLX Crimp Series**

**EMC Series**



NC3FD-L-1



NC4MDM3-H



NC3FD-LX-HE



NC5MD-LX



NC3FD-LX-HA



NC3MD-LX-BAG-HA



NC3FDX-EMC-SPEC

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

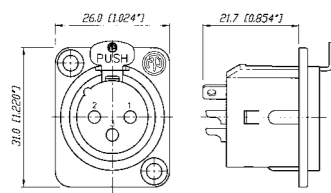
- Next generation of the popular DL Series with greater functionality
- All metal housing works in combination with a new duplex ground contact yielding the best RF protection and ground conductivity in a chassis mount XLR
- Male connector's retention bar replaces plastic design with all metal version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

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

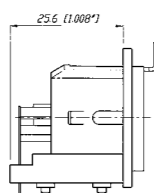
- 3 pole female XLR chassis connector with integrated capacitive shield to shell connection to avoid RF-interference and LF-noise
- 360° shield contact ensures best possible shielding and chassis contact
- D flange chassis for panel mount applications
- Includes the locking nut of the NC3FX-SPEC for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

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

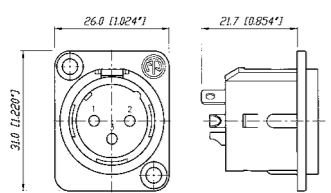
NC3FD-L-1



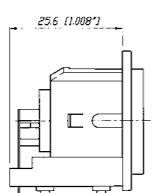
NC\*FDM3-H



NC3MD-L-1

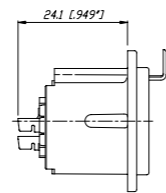
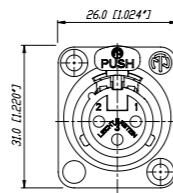


NC\*MDM3-H

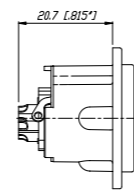


\* ... 3 - 5 contacts

NC3FD-LX

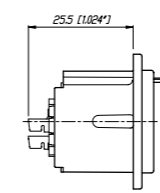
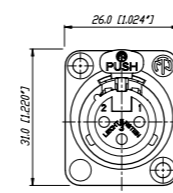


NC\*MD-LX

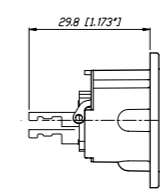


\* ... 3 - 7 contacts

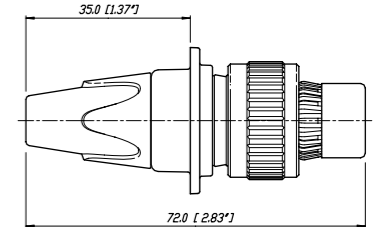
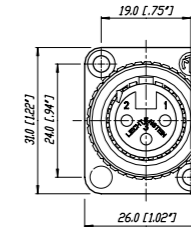
NC3FD-LX-HA



NC3MD-LX-HA



NC3FDX-EMC-SPEC





Sealing Gasket



Through hole fastening



Front end design



Solder termination

**MPR-HD Series**

**P Series**

**Combo Series**



NC3MPR-HD

NC5MPR-HD



NC3FP-1

NC6MP-B



NCJ9FI-V



NCJ10FI-S

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

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

- 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

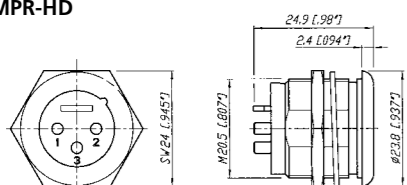
- Very low conductor capacitance, therefore suitable for digital audio
- Fastening: Self-tapping Plastite® screws with thread 2.9 x 1.06 and tri-rondular configuration (A screw)



NC5MPR-HD

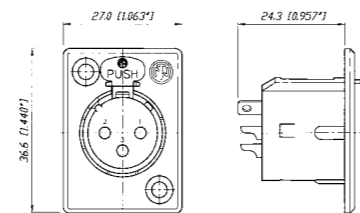
NC5FX-HD

NC3MPR-HD

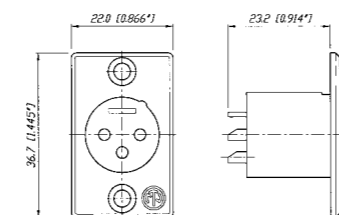


\* ... 3 - 5 contacts

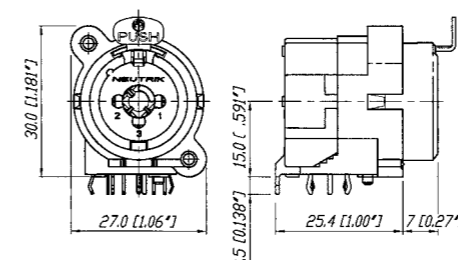
NC3FP-1



NC3MP



NCJ10FI-H



XLR receptacle or 1/4" phone jack



Horizontal PCB mount    Vertical PCB mount    Hologram

## Combo A Series



NCJ6FA-V



NCJ6FA-H-0

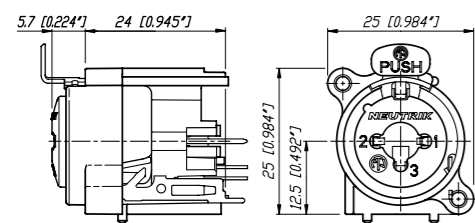


NCJ6FA-V-0

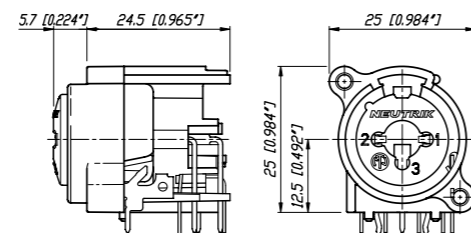
- Combined 3 pole XLR receptacle and 1/4" phone jack for balanced mic and line or instrument inputs in one XLR housing
- Dramatic space saving - 15% over the predecessor Combo
- Two connectors in one housing - substantial cost, material and labour saving
- Horizontal and vertical PCB mount available

- 3 pole female XLR combined with stereo TRS jack
- Very low conductor capacitance - ideal for digital audio
- Front panel cut-out compatible with Neutrik XLR A Series
- Branded with unique hologram - guarantees genuine and authentic Neutrik product

NCJ6FA-V



NCJ6FA-H



## Colour Coded Accessories

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

## Accessories

### XLR Cable Connectors



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

### XLR Chassis Connectors



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



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

Specification	A Series	AA Series	B Series	BA Series	D Series	DL / DLX Series	DLX Crimp
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Electrical							
Number of contacts	3 - 5	3	3	3-5	3	3-7	3
Contact resistance	≤ 6 mΩ	•	•	•	•	•	•
Insulation resistance - initial:	> 2 GΩ	•	•	•	•	•	•
- after damp heat test:	> 1 GΩ	•	•	•	•	•	•
Dielectric strength	1500 V dc	•	•	•	•	•	•
Rated voltage	50 V ac	•	•	•	•	•	•
Rated current per contact							
3 pole:	6 A	•	•	•	•	16 A	1 A
4 pole:	6 A	•	-	-	-	10 A	-
5, 6 pole:	3 A	•	-	-	-	7.5 A	-
7 pole:	5 A	-	-	-	-	•	-
Combo XLR + Jack contact	7.5 A	-	-	-	-	-	-
Capacitance between contacts							
3 pole:	≤ 4 pF	•	•	•	-	≤ 4 pF	≤ 4 pF
4, 5, 6 pole:	≤ 7 pF	•	-	•	-	•	-
7 pole:	≤ 9 pF	-	-	-	-	•	-

Mechanical							
Lifetime > 1'000 mating cycles	•	•	•	•	•	•	•
Insertion / withdrawal force	≤ 20 N	•	•	•	•	•	•
Retention method							
- standard:	latch lock	•	•	•	•	•	•
- "0" Version:	≥ 20 N separating force	•	•	•	•	•	-
Crimp XX:	0.22 - 0.34 mm <sup>2</sup> / AWG 24 - 22	-	-	-	-	-	•

Material							
Insert	Polyamide PA 6.6 30% GR	•	•	•	•	•	•
Shell	Zinc diecast ZnAl4Cu1	-	-	-	•	•	•
	(gal Ni or black Cr plated)	-	-	-	•	•	•
Ring	Zinc diecast ZnAl4Cu1	-	-	•	-	-	-
Contacts	- female 3 pole: Bronze CuSn6	•	•	•	•	•	•
	4 - 5 pole: Bronze CuSn6	•	-	•	-	-	-
	4 - 7 pole: Brass CuZn39Pb3	-	-	-	-	•	-
	- male: Brass CuZn35Pb2	•	•	•	•	•	•
Contact surface	gal 0.2 μm AuCo over 2 μm NiP15 (Tribor®)	•	•	•	-	-	-
	gal 2 μm Ag or gal 0.2 μm Au hard alloy over 2 μm Ni	-	-	-	•	•	•
Latch lock & spring	Ck 67 steel, treated	•	•	•	•	•	•

Environmental							
Operating temperature	-30°C to +80°C	•	•	•	•	•	•
Protection class	IP 40	•	•	•	•	•	•
Flammability	UL 94 HB	•	•	-	•	•	•
	UL 94 V-0	3 pole	-	•	3 pole	-	-
Solderability complies with IEC 68-2-20		•	•	•	•	•	•
Mounting screw	A	A	1)	A	-	-	-
Colour coding	ACR-*	-	-	ACR-*	DSS	DSS	DSS

(4 + 5 pole only)

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

Specification	MPR-HD Series	P Series	Combo Series	A Combo
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Electrical				
Number of contacts	3-5	3-7(6*)	5-10	3/3
Contact resistance	≤ 6 mΩ	•	•	≤ 10 mΩ
Insulation resistance - initial:	> 2 GΩ	•	•	•
- after damp heat test:	> 1 GΩ	•	•	> 500 MΩ
Dielectric strength	1500 V dc	•	•	•
Rated voltage	50 V ac	•	•	•
Rated current per contact				
3 pole:	6 A	16 A	16 A	-
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
4, 5, 6 pole:	≤ 7 pF	•	•	-
7 pole:	≤ 9 pF	-	•	-

Mechanical				
Lifetime > 1'000 mating cycles	•	•	•	•
Insertion / withdrawal force	≤ 20 N	•	•	• 25 N
Retention method				
- standard:	latch lock	•	•	• (XLR)
- "0" Version:	≥ 20 N separating force	•	•	• 25 N

Material				
Insert	Polyamide PA 6.6 30% GR	•	•	•
Shell	Zinc diecast ZnAl4Cu1	•	•	-
	(gal Ni or black Cr plated)	Ni plated	•	-
Ring	Zinc diecast ZnAl4Cu1	-	-	-
Contacts	- female 3 pole: Bronze CuSn6	-	•	•
	4 - 5 pole: Bronze CuSn6	-	-	-
	4 - 7 pole: Brass CuZn39Pb3	-	•	-
	- male: Brass CuZn35Pb2	•	•	-
Contact surface	gal 0.2 μm AuCo over 2 μm NiP15 (Tribor®)	-	-	•
	gal 2 μm Ag or gal 0.2 μm Au hard alloy over 2 μm Ni	Au	•	-
Latch lock & spring	Ck 67 steel, treated	-	•	•

Environmental				
Operating temperature	-30°C to +80°C	•	•	•
Protection class	IP 40	IP 65	•	•
Flammability	UL 94 HB	•	•	•
	UL 94 V-0	-	-	-
Solderability complies with IEC 68-2-20		•	•	•
Mounting screw		-	-	A
Colour coding		-	-	-

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





## Ordering Information for Receptacles

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

Shell Contact 5 6 9 10  
pole pole pole pole

### EMC XLR

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

### 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 ● ● ● - -

### 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 ● ● ● ●

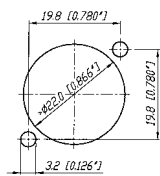
NCJ\*FI-V-0 Black plastic Gold ● ● ● ●

### Contact #

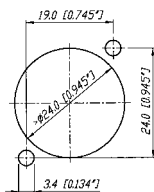
	1	2	3	T	R	S	TN	RN	SN	G	GN
NCJ5FI-*	x	x	x	x	x	x					x
NCJ6FI-*	x	x	x	x	x	x					x
NCJ9FI-*	x	x	x	x	x	x	x	x	x	x	x
NCJ10FI-*	x	x	x	x	x	x	x	x	x	x	x

## Panel Cutouts

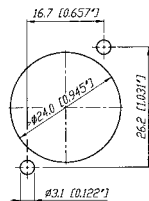
A/AA/B/BA Series



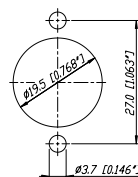
D/DL/DLX Series



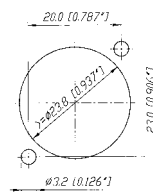
P Series Female



P Series Male



Combo



MPR Series



## Assembly Tools



HTXP



BTXX



HX-R-BNC



DIE-R-BNC-PT

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

