Data Connectors

NEUTRIK®

C o n t e n t   P a g e

Introduction

NEUTRIK's continuously growing range of data connectors copes with the increasing and versatile 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 HDMI, USB, D-SUB and Firewire to suit the high demands of professional users in the entertainment industry.

Data Connectors
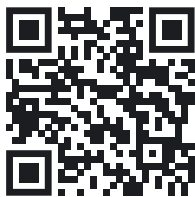
Ruggedized RJ45 Data Connector

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 tailor-made products to suit all state-of-the art transmission classes like CAT6A, CAT6, CAT5e as well as class D according to TIA / EIA 568C.2 and ISO / EC 11801 respectively EN 50173-1 standard. The broadly based product range includes male cable carriers, assembled female receptacles, feedthrough jacks, cable couplers and shielded versions with or without illumination possibilities by LEDs. For pre-assembled RJ45 cables NEUTRIK offers a rugged diecast metal shell as a male cable carrier, which does not require the re-termination of the cable assembly.

Female chassis receptacles are based on the well known NEUTRIK "A & B" series as well the "D" series of XLR receptacles with either secure latching system or push pull locking (CAT6) – features not found on other RJ45 receptacles. Terminations available do include horizontal and vertical PCB mount or IDC. Ingress protection of IP54 is achived on the CAT 5 version by assembling the waterproof sealing kit SE8FD while CAT 6 versions are IP65 rated as standard and at the new CAT6A range it is customers choice to use the IP65 protected receptacles or the unprotected versions.

Rugged diecast shell | Feedthrough | IDC Version | IP65 Protected

etherCON CAT6A Series

NE8MX6

NE8FDX-P6

NE8FDX-Y6-W

- Ruggedized connector range with CAT6A component compliance according to ISO / IEC 11801 respectively EN50173-1 and CAT6A according to TIA / EIA 568-C.2
- D-size chassis connector for IDC self-termination or as feedthrough adapter
- IP65 protected version available
- PoE+ compliant according to 802.3at Type2
- Downwards compatible with the existing etherCON CAT5 range

CAT6A / CAT5* compatibility:

etherCON CAT6A

etherCON CAT5e / A / B & D type

etherCON CAT6A

etherCON NE8MX*

NE8MX6

74.5-76.5 [2.935-3.013]

19.05 [.750]

NE8FDX-Y6

24 [.945]
31 [1.220]
19 [.748]
25.6 [1.008]
37.621 [1.48]
3 [.12]

NE8FDX-P6-W

29 [1.142]
19 [.748]
24 [.945]
34 [1.339]
70.5 [2.776]
29,5 [1.161]

setting standards
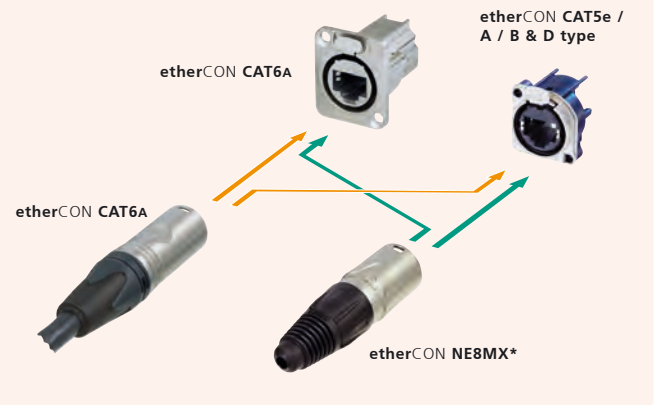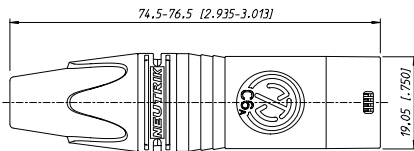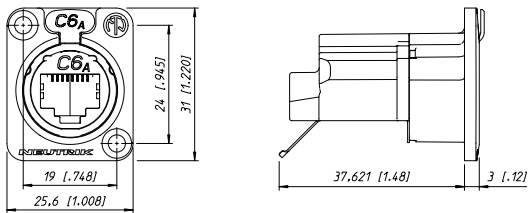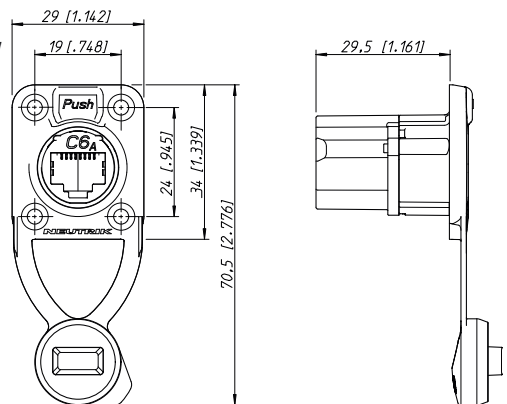
Technical Data

		Receptacle	Cable connector
Electrical			
Number of contacts	8	●	●
Rated current per contact	1.5 A	●	●
TIA / EIA rating	CAT6A	●	●
IEC / ISO / EN rating	CAT6A	●	●
Input to output resistance	< 200 mΩ	-	-
Insulation resistance	> 500 MΩ	●	●
Dielectric strength	1 kV dc	●	●
PoE + acc. IEEE 802.3at		●	●
Materials			
Housing	Zinc diecast	●	●
Adapter	Polyamide PA 6	-	-
Strain relief clamp	POM	-	●
Contacts	Bronze CuSn	-	-
	Spring steel	●	●
Contact surface	Gold	●	●
Bushing	PU / PA	-	●
Mechanical			
Retention method	Latch Lock	●	●
Life time (mating cycles)	> 1`000	●	●
Cable O.D. range	7.0 - 9.5 mm	●	●
Wire size	solid	NE8FDX-Y6(-B)(-W): AWG 26/1 -22/1	AWG 26/1 - 22/1
	stranded wire	AWG 26/7 -22/7	AWG 27/7 - 22/7
Insulation diameter		> 0.85 -1.6 mm	NE8MX6(-B): > 1.10 -1.60 mm
			NE8MX6(-B)-T: > 0.85 -1.10 mm
Environmental			
Operating temperature / Storage temperature	-40 °C to +70 °C	●	●
Flammability	UL94V-0	●	●
Protection class	IP65 in combination with "-W" receptacle	●	●

Ordering Information

Cable Connector

NE8MX6	CAT6A, nickel plating, ≥ AWG 24
NE8MX6-B	CAT6A, black plating, ≥ AWG 24
NE8MX6-T	CAT6A, nickel plating, ≤ AWG 24
NE8MX6-B-T	CAT6A, black plating, ≤ AWG 24

Receptacle

NE8FDX-P6	CAT6A shielded feedthrough, nickel plating
NE8FDX-P6-B	CAT6A shielded feedthrough, black plating
NE8FDX-Y6	CAT6A shielded IDC, nickel plating
NE8FDX-Y6-B	CAT6A shielded IDC, black plating
NE8FDX-P6-W	CAT6A shielded feedthrough, with integrated rubber sealing cap, IP65
NE8FDX-Y6-W	CAT6A shielded IDC, with integrated rubber sealing cap, IP65

Accessories and Assembly Tools

HTXX-14	Handtool to tighten the NE8MX6* bushing
HX-CAT6A	Parallel press tool for etherCON CAT6A Series
XXR*	Colored coding ring (see page 38)
XXCR	Translucet coding ring (see page 38)

IDC Terminals   Horizontal PCB   Vertical PCB with lightpipes   D shape metal shell   PCB Version

e t h e r C O N C A T 5 e – A / B & D t y p e R e c e p t a c l e

NE8FAH-C5   NE8FBH-C5-LED   NE8FBV-C5-LED-S   NE8FDV-Y110-B   NE8FDH-C5E

- Space saving A or B type receptacles - horizontal or vertical PCB design available
- Vertical PCB design of NE8FAV-C5* and NE8FBV-C5* is 24 mm distance to front panel - fits the widely accepted industry standard dimensions for XLRs, 1/4" jacks etc.
- PoE+ compliant according to 802.3at Type2
- CAT5e performance according to ISO/IEC 11801 and TIA/EIA 568-C.2
- Shielded or non-shielded versions available
- Two types of light pipes available to accommodate through hole LEDs or SMD-LEDs
- Accommodates rugged etherCON NE8MX* cable carriers or any standard RJ45 plug
- D type receptacles - horizontal PCB or punch terminal (Krone or 110) design available

NE8FBH-C5-LED
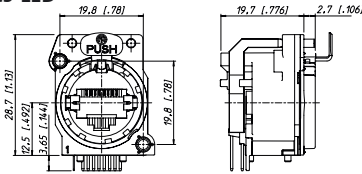
NE8FDV-Y110
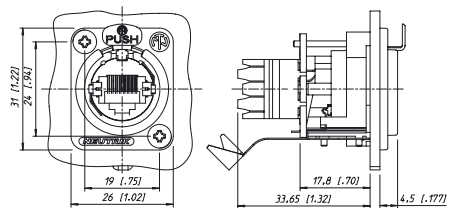
NE8FBV-C5-LED-S
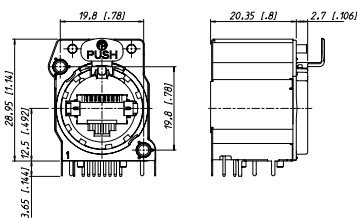
NE8FDH-C5E
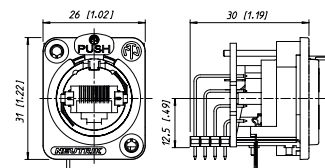
Horizontal PCB

Vertical PCB

NE8FDV-SE – Vertical PCB receptacle combined with waterproof kit

etherCON – Receptacles

NE8FAV + ACRF-2

NE8FBH

NE8FDV

NE8FDV-SE

- "A / B" and "D" sized receptacles available in vertical and horizontal PCB or IDC terminations
- Accommodates NE8MX 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
- Version with screw domes to fix connector onto PCB securely (NE8FAV-SD)

NE8FAV
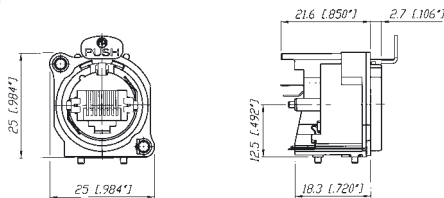
NE8FBH
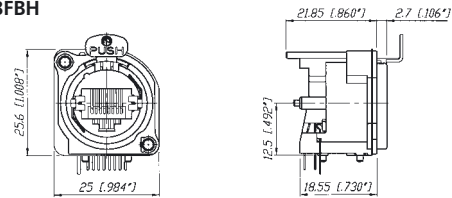
NE8FAV-SD
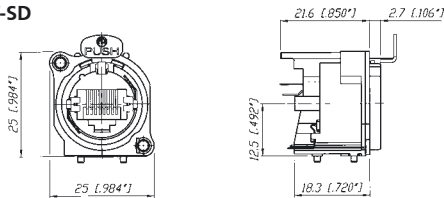
NE8FDV
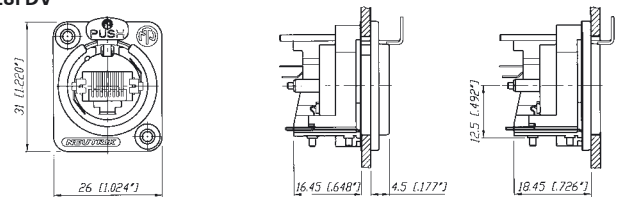
Completely closed housing

Light pipe

etherCON – Shielded & Lighted

NE8FBH-S

NE8FBH-LED

- Comprehensive shielding granted by completely closed metal housing
- Improves EMC performance of appliance even in unmated condition
- Light pipes illuminated by standard 3 mm LEDs – to be mounted on PCB by customer
- Receptacles comply with class D Link performance.
- Ground panel connection
- Complies with Class D according to TIA / EIA 568B and ISO / IEC 11801 standard
- Approved latch lock system

NE8FBH-S
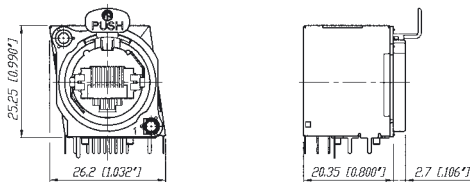
NE8FBH-LED
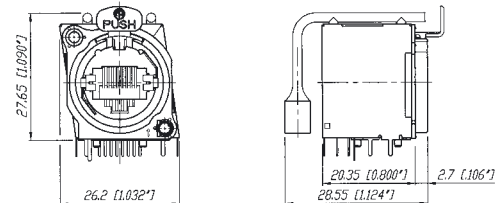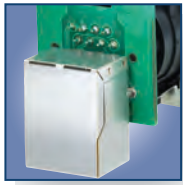
NE8FDP-R rear side

Locking latch

Rugged aluminium extrusion housing

Rugged diecast shell

IP65 Protected in mated condition

etherCON Feedthrough

NE8FDP-R

NE8FF

- Feedthrough as panel mount receptacle and as cable coupler
- NE8FDP feedthrough connector in D series housing for use in patchfields – rear side accommodates standard RJ45 plug.
- New: Right angle version available (NE8FDP-R).
- NE8FF coupler (adapter) for cable to cable mating – use with NE8MX* carriers or any standard RJ45 plugs
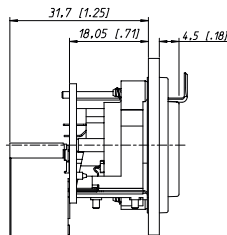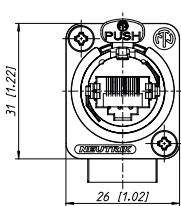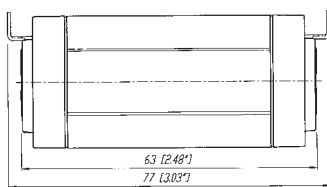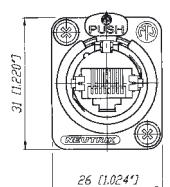
etherCON CAT6A Adapter

NE8FFX6-W

- Ruggedized coupler with CAT6$_A$ component compliance according to ISO/IEC 11801 and TIA/EIA 568-C.2
- IP65 protected when mated with NE8MX6*
- Accommodates standard RJ45 plug
- Revolutionary small form factor
- The adapter offers the million fold proven robust latch lock system
- The adapters are problem solvers for various intermating problems for professional and semi-professional applications

NE8FDP-R

31,7 [1.25]
18,05 [.71]   4,5 [.18]
31 [1.22]
26 [1.02]

NE8FF

31 [1.220"]
26 [1.024"]
63 [2.48"]
77 [3.03"]

NE8FFX6-W

33,5 [1.32"]
24,5 [1"]

etherCON TOP

TRUE OUTDOOR PROTECTION

RUGGED & RELIABLE

SUPERIOR QUALITY

UV RESISTANT IP65 RATED
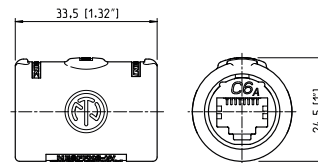
etherCON TOP

NEUTRIK's new TRUE OUTDOOR PROTECTION (TOP) products for demanding outdoor applications is setting standards. Approved for outdoor use according to UL50E. UV resistant and IP65 rated.

The highly innovative entertainment industry is permanently evolving accompanied by increasing demands on inter-connection systems. Particular environmentally sealed connectors are highly requested for heavy-duty and harsh environment applications of entertainment equipment like PA systems, signs and LED screens or lightings.

Cable connector carrier consists of a velour chromiuim shell, chuck and boot. The boot is suitable for cable diameters from 5 - 8 mm. For non pre-assembled cables only. Cable connector carrier does not include a RJ45 plug. The etherCON cable connector carrier upgrades a conventional RJ45 connector to an extremely robust, outdoor protected lockable solution (IP65 & UL50E).

ATTENTION: Does not intermate with the CAT6 chassis connectors NE8FDY-C6 and NE8FDY-C6-B.

The etherCON chassis connector series is a ruggedized and lockable RJ45 connector system, optimized for pro audio, video and lighting network applications. The chassis connectors are shaped to fit into standardized panels out of the entertainment industry. The D-series offers the most rugged design of the etherCON series and is perfectly suitable for panel mount and the installer market.

ATTENTION: Does not intermate with CAT6 cable connector NE8MC6-MO and NKE6S* cables.

Rugged diecast shell

Metal shell

Outdoor assembly kit

c UL us LISTED

TRUE OUTDOOR PROTECTION

etherCON TOP – lockable RJ45 connector system

NE8MX-TOP

NE8FDV-TOP

- Heavy-duty sealed RJ45 system for harsh environment
- Rugged cable connector carrier accepting most common RJ45 plugs
- Uses high impact UV resistant materials per UL
- Outdoor protection acc. IP65 Rated and UL50E Certified

- D-sized receptacles for PCB mount and IDC termination
- Sealing when disconnected by attached cover
- Class D or CAT5e acc. ISO/IEC 11801 and TIA/EIA 568B

Ordering Information

Cable Connector

NE8MX-TOP	Rugged RJ45 cable connector carrier

Chassis Connector

NE8FDV-TOP	Rugged D-size chassis connector, mounting screws included
NE8FDP-TOP	Rugged D-size feedthrough chassis connector, mounting screws included
NE8FDH-C5E-TOP	Rugged D-size PCB mount chassis connector, mounting screws included
SE8FD-TOP	Outdoor assembly kit

NE8MX-TOP

Ø19,1 [.75"]
67,5–69,5 [2.66–2.73"]

NE8FDV-TOP

25,9 [1.020"]
17,55 [.691"]
51,5 [2.028"]
15,45 [.608"]
9,1 [.358"]
5,05 [.199"]
16,45 [.648"]
Front Panel (2–4 mm)
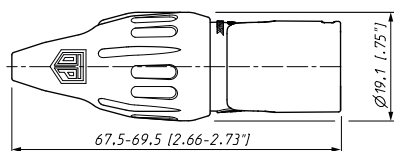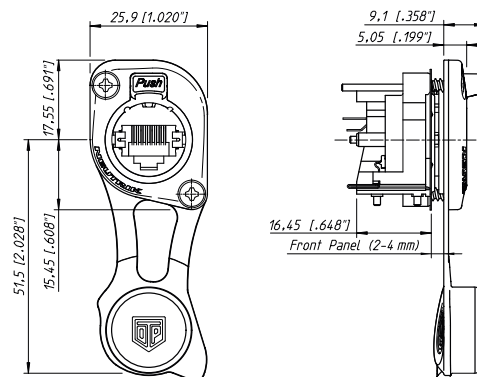
Newly designed rugged diecast shell   NEUTRIK bushing

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

NE8MX   NE8MX-B-1

- 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
- 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

NE8MX   **NE8MX-1**

Ø 19,91 [.78"]
66,4 [2.614"]

Ø 19,91 [.78"]
50 [1.969"]

Ø 19,91 [.78"]
67,55 [2.659"]
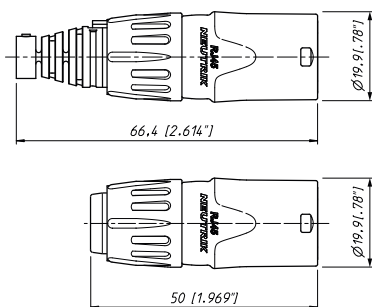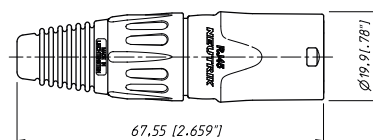
Specification		NE8MX-TOP Cable Con.	NE8MX* Cable Con.	NE8FA/B* (A + B Series)	NE8FD*-TOP (D Shape)	NE8FD* (D Series)
Electrical						
Number of contacts	8	- [1]	- [1]	●	●	●
Rated current per contact	< 1.5 A	- [1]	- [1]	●	●	●
Rated voltage	< 50 V ac	- [1]	- [1]	●	●	●
Contact resistance	< 10 mΩ	- [1]	- [1]	●	●	●
Insulation resistance	> 500 MΩ	- [1]	- [1]	●	●	●
Dielectric strength	> 1`000 V ac rms	- [1]	- [1]	●	●	●
Frequency bandwidth	1 - 100 MHz	- [1]	- [1]	●	●	●
Transmission class acc. TIA / EIA 568B or IEC 11801 - CAT 5e		- [1]	- [1]	NE8*-C5*/NE8FA*-Y*	●	NE8FD*-C5e/NE8FD*-Y*
	Class D	- [1]	- [1]	●	●	●
PoE + acc. IEEE 802.3at		- [1]	- [1]	●	●	●
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	4.5 - 8 mm	5 - 8 mm	●	-	-	-
Wire size	AWG 26 – 20	- [1]	- [1]	NE8*-Y*	-	NE8*-Y*
Panel thickness	max. 3 mm / 0.12"	-	-	●	4 mm / 0.16"	4 mm / 0.16"
Material						
Housing	PBT D202G30	-	-	●	●	●
	Zinc diecast (ZnAlCu1)	●	●	-	-	-
	(gal Ni / bl Cr / Chromium)					
B / D-flange	Zinc diecast (ZnAlCu1)	-	-	●	●	●
	(gal Ni / bl Cr)					
Strain relief clamp	POM	●	●	-	-	-
	CuZn35Pb2, Tin plated	-	-	NE8*-Y*	-	NE8*-Y*
Contacts	Bronze (CuSn8)	- [1]	- [1]	●	●	●
	Spring steel	NE8F*-TOP	NE8*C5*	●	●	●
Contact surface	Au (gal 0.2 µm over Ni plating)	- [1]	- [1]	●	●	●
Locking Element	Ck 67 steel, treated	-	-	●	●	●
Bushing	Polyamide (PA 6 15% GR)	●	●	-	-	-
Boot	Polyamide (PA 6)	●	●	-	-	-
Sealing gasket	EPDM	-	-	-	●	SE8FD
Environment						
Operating Temperature	-30 °C to +80 °C	●	●	●	●	●
	-20 °C to +60 °C	-	-	-	-	SE8FD
Protection class	IP54	-	-	-	-	SE8FD
	IP65, UL50E	●	-	-	●	-
	(mated or sealing cap closed)					
Flammability	UL94V-0	●	UL94 HB	●	●	●
Solderability complies with	IEC 68-2-20	-	-	PCB Version	●	PCB Version
Mating screw		-	-	A screw	included	E screw
Color coding		-	BSE-* / BSX-*	ACRF-*	-	DSS-*

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

Ordering Information

	Shape				Termination					Remarks
	A	B	D	H	V	IDC	IDC 110	LED	S	
CAT 5e Receptacle										
NE8FAH-C5	●			●						
NE8FAV-C5	●				●					
NE8FAV-YK①	●					●				
NE8FAV-Y110①	●						●			
NE8FBH-C5		●		●						
NE8FBH-C5-S		●		●					●	
NE8FBH-C5-LED		●		●				●		through hole LED
NE8FBH-C5-LED1		●		●				●		SMD LED
NE8FBH-C5-LED-S		●		●				●	●	through hole LED
NE8FBH-C5-LED1-S		●		●				●	●	SMD LED
NE8FBV-C5		●			●					
NE8FBV-C5-S		●			●				●	
NE8FBV-C5-LED		●			●			●		through hole LED
NE8FBV-C5-LED1		●			●			●		SMD LED
NE8FBV-C5-LED-S		●			●			●	●	through hole LED
NE8FBV-C5-LED1-S		●			●			●	●	SMD LED
NE8FDH-C5e			●	●						
NE8FDH-C5e-SE			●	●						with sealing kit SE8FD
NE8FDV-YK①			●			●				
NE8FDV-Y110①			●				●			
NE8FDP*; NE8DFP-B			●							feedthrough; black plating
NE8FDP-SE			●							with sealing kit SE8FD
NE8FDP-R①			●							right angle port, feedthrough
NE8FDP-R-B①			●							right angle port, feedt., black plating
Feedthrough Coupler										
NE8FF			●							feedthrough; black plating
NE8FX6-W	Revolutionary small form factor, Accommodates standard RJ45 plug, CAT6ᴀ feedthrough, rubber sealing, protection, IP65									
TOP Series										
Cable Connector										
NE8MX-TOP										IP65, UL50E (mated)
Chassis Connector										
NE8FDV-TOP①		D-size			●					CLASS D
NE8FDP-TOP①		D-size								CAT5e feedthrough
NE8FDH-C5E-TOP①		D-size		●						CAT5e
SE8FD-TOP		D-size								Outdoor assembly kit
CLASS D Receptacle										
NE8FAH	●			●						
NE8FAV	●				●					
NE8FAV-SD①	●				●					Screw dome
NE8FBH		●		●						
NE8FBV		●			●					
NE8FDV			●		●					
NE8FDV-SE			●		●					with sealing kit SE8FD

Cable Carriers

NE8MX	Cable housing with chuck and bushing (two antikink boots, one up to 5 mm and one up to 8 mm cable O.D.)
	(standard boot in black, 9 different coding colours on request ... BSE-*)
NE8MX-B	Black chromium housing with chuck and bushing (two antikink boots, one for 5 mm and one for 8 mm cable O.D.)
	(standard boot in black, 9 different coding colours on request ... BSE-*)
NE8MX-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 ... BSX-*)
NE8MX-B-1	Black chromium housing with chuck and X-series bushing
	(standard bushing in black, 9 different coding colours on request ... BSX-*)
IMPORTANT:	Cable connectors do not include RJ45 plug. RJ45 cable assembly must be provided by end-user!

INFORMATION:	A .... A-shape receptacle (all plastic)	IDC .... IDC terminals
	B .... B-shape receptacle (Nickel ring)	IDC 110 .. IDC 110 punch down terminals
	D .... D-shape receptacle	LED .... Light pipe
	H .... Horizontal PCB mount	S .... shielded metal housing
	V .... Vertical PCB mount	① .... Includes 2 mounting screws

Accessories

A screw   E screw   E screw Nickel

ACRF-*   BSE-*   BSX-*   DSS-*   HTX   SCDP-*   SCDX   SCCD-W

Waterproof assembly kit - SE8FD   Outdoor assembly kit - SE8FD-TOP

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
HTX	Hand tool to tighten the bushing for NE8MC-1, NE8MC-B-1 and NE8MX* cable connectors
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, IP42 rated
SCCD-W	Spring-loaded cover to seals for D-size chassis connectors, IP65 rated
SE8FD	Waterproof kit, IP54, consists of push, gasket, frontplate Suitable for all NE8FD*, perfect in combination with NE8MC-1 (with Chromium plating and sealing gasket)
SE8FD-TOP	Outdoor assembly kit to cover D-series etherCON connectors into TOP versions, according to IP65 & UL50E

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

Push Pull locking
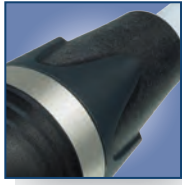
IP65 in mated condition

D-shape metal shell
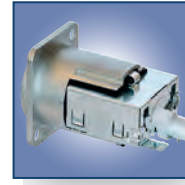
Closed shielding

etherCON CAT6 – Patch Cable & Receptacles

NKE6S-*

NE8MC6-MO

NE8FDY-C6

NE8FDY-C6-B

- CAT6 compliant – according to ISO / IEC 11801, TIA / EIA 568C.2, EN50173-1
- Dust and water resistant according IP65 in mated condition
- Push Pull mating design provides secure locking system
- Shielded system – high noise immunity and EMI protection
- IDC contacts for tool-free assembly offer gas-tight termination
- Ready made patch cables or cable connector for self termination with rugged diecast cable carrier and unique chuck-type strain relief

NKE6S-*
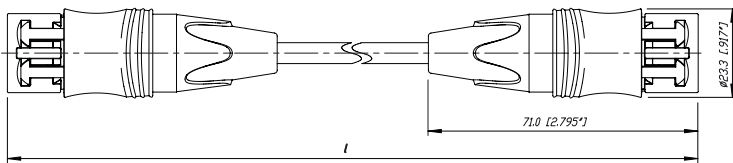
NE8FDY-C6
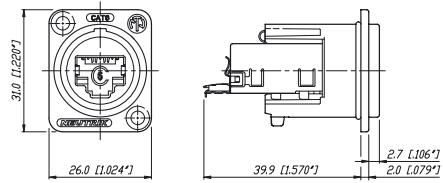
NE8MC6-MO
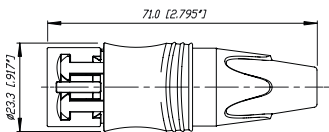
Technical Data

		Receptacle	Patch Cable
Electrical			
Number of contacts	8	●	●
Rated current per contact	1.5 A	●	●
TIA / EIA rating	CAT6	●	●
IEC / ISO / EN rating	CAT6$_A$	-	-
Input to output resistance	< 200 mΩ	●	●
Insulation resistance	> 500 MΩ	●	●
Dielectric strength	1 kV dc	●	●
PoE + acc. IEEE 802.3at		-	-
Materials			
Housing	Zinc diecast	●	●
Adapter	Polyamide PA 6	●	●
Strain relief clamp	POM	-	●
Contacts	Bronze CuSn	●	●
	Spring steel	-	-
Contact surface	Gold	●	●
Bushing	PU / PA	-	●
Mechanical			
Retention method	Push-Pull	●	-
Life time (mating cycles)	> 1`000	●	●
Cable O.D. range	5.5 - 6.5 mm	●	●
Wire size (solid)	0.205 - 0.324 mm² (AWG 24 - AWG 22)	●	●
Stranded wire	0.141 - 0.355 mm² (AWG 26 / 7 - 22 / 7)	●	●
Environmental			
Operating temperature	-10 °C to +60 °C	●	●
Storage temperature	-40 °C to +70 °C	●	●
Flammability	UL94HB	●	●
Protection class	IP65	●	●

Ordering Information CAT6

Cable Connector

NE8MC6-MO	RJ45 cable plug with 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	CAT6 with Nickel D-shell
NE8FDY-C6-B	CAT6 with Black Chrome D-shell
Accessories	see page 111 / 116 / 120

Push Pull locking
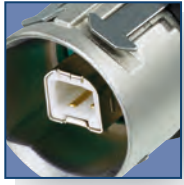
USB type B

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

NKUSB-*

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

NKUSB

Ø23.3 [.917']

54.5 [2.15]
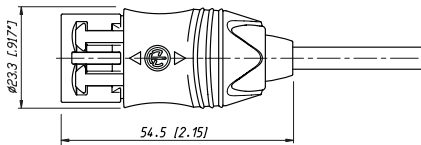
D-shape metal housing
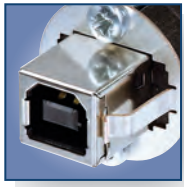
USB type B

USB 3.0 Type B

Rugged housing

USB 2.0 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

USB 3.0 Receptacle

NAUSB3

NAUSB3-B

- Rugged USB 3.0 feedthrough adapter
- Standardized D-shape housing
- Reversible insert offering type A or B on front or rear end
- Optional screen to chassis grounding
- Nickel and black chrome plating available

NAUSB-W

31 [1.220"]
26 [1.024"]
36 [1.42"] 2 [0.079"]
41 [1.61"]

NAUSB3

31 [1.220"]
26 [1.024"]
39.5 [1.56"] 2 [0.079"]
44.5 [1.752"]
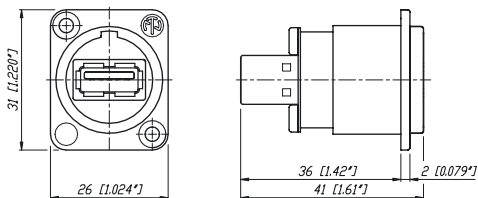
Technical Data
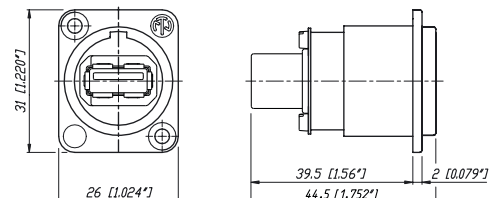
Mechanical and Electrical		Receptacle	Patch Cable
Conform with USB 2.0 Standard		●	●

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	IP65	●	●

Ordering Information

Chassis

NAUSB-W	USB 2.0: USB A – USB B Adapter (reversible), sealing ring, optional grounding, nickel housing
NAUSB-W-B	USB 2.0: USB A – USB B Adapter (reversible), sealing ring, optional grounding, black housing
NAUSB3	USB 3.0: USB A – USB B Adapter (reversible), sealing ring, optional grounding, nickel housing
NAUSB3-B	USB 3.0: 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-*   SCDX   SCCD-W   SCD-W   SCDP-*

DSS-**	Lettering plate for D series, colored plastic
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, IP42 rated
SCCD-W	Spring-loaded cover seals for D-size chassis connectors, IP65 rated
SCD-W	D-Size sealing cap, IP65 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 2.0

D-shape metal housing

HDMI 2.0 receptacle

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

NKHDMI-*

- HDMI 2.0 – data rate up to 14.4 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 (0.6 m, 1 m, 3 m, 5 m and 10 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-*
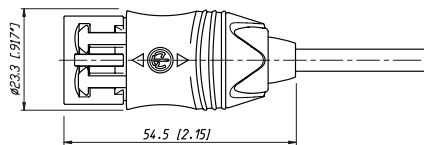
H D M I   R e c e p t a c l e s

NAHDMI-W

- Audio / Video interface to transmit any digital TV and PC Video format including high-definition video (HDTV).
- HDMI 2.0 feedthrough adapter with 19 pole HDMI receptacle at both ends
- Optional screen to chassis grounding
- Universally accepted standard D-shape housing

NAHDMI-W
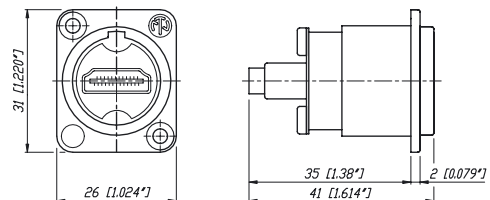
** ... 10 m cable complies with HDMI 1.4 specification.

D-shape metal housing

IEE 1394 receptacle

D-SUB data connector

D-shape metal housing

9 pole or 15 pole available

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-B

NADB15FF

- D-SUB feedthrough adapter
- Optimized ground connection
- Standardized D-shape housing
- 9 pole and 15 pole versions available
- "Male – Female" and "Female – Female" versions available
- Nickel and black chrome plating available

NA1394-6-W
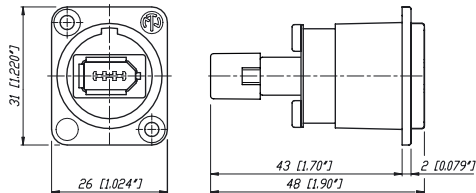
NADB9MF
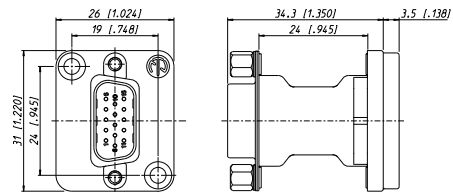
Technical Data

Mechanical and Electrical		HDMI Receptacle	HDMI Patch Cable	Firewire	D-SUB
Conform with Standards		HDMI 2.0	HDMI 2.0	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	IP65	●	●	-	-

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

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

Patch Cable

NKHDMI-*	HDMI 2.0 cable with overmolded flex relief and metal cable carrier, standard lengths: 0.6, 1, 3, 5, 10 m
	(combination with NEUTRIK chassis up to 5 m cable length HDMI 2.0, cable length of 10 m complies with HDMI 1.4 specification)

D-SUB

NADB9MF	9 pole D-SUB feedthrough male-female, D-shape nickel housing
NADB9MF-B	9 pole D-SUB feedthrough male-female, D-shape black chrome housing
NADB9FF	9 pole D-SUB feedthrough female-female, D-shape nickel housing
NADB9FF-B	9 pole D-SUB feedthrough female-female, D-shape black chrome housing
NADB15MF	15 pole D-SUB feedthrough male-female, D-shape nickel housing
NADB15MF-B	15 pole D-SUB feedthrough male-female, D-shape black chrome housing
NADB15FF	15 pole D-SUB feedthrough female-female, D-shape nickel housing
NADB15FF-B	15 pole D-SUB feedthrough female-female, D-shape black chrome housing

mediaCON **USB TYPE C**

USB-C CABLE
& CHASSIS

PERFORMANCE
UP TO 10 Gb/s

RUGGED &
LOCKABLE

POWER
UP TO 100 W
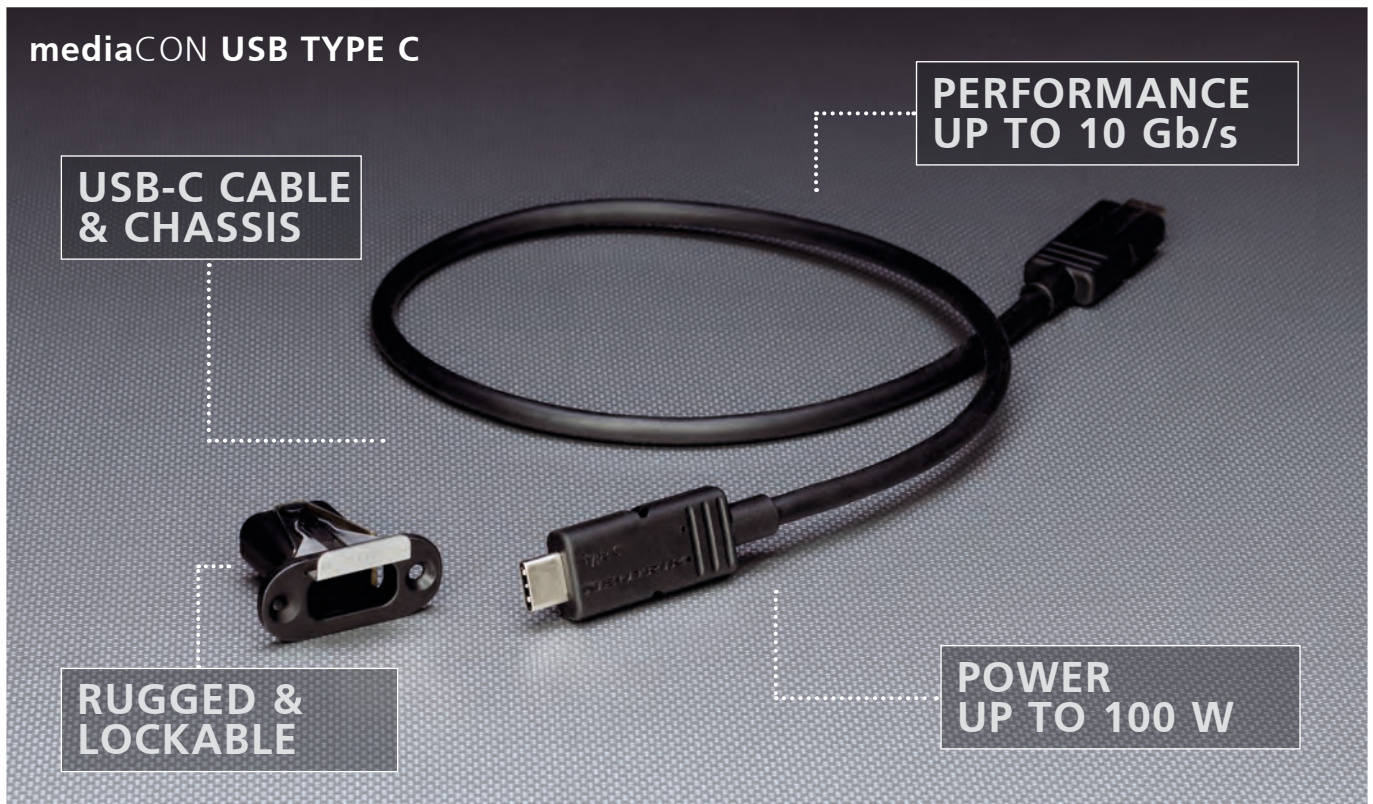
mediaCON the new USB-C multimedia solution

The innovative USB-C multimedia system for demanding broadcast and professional A/V applications.

Due to the increasing digitalization in the broadcast and A/V market. NEUTRIK has decided to launch the brand-new mediaCON USB Type-C series.

NEUTRIK built a push/pull lockable and space-saving mediaCON chassis which can be mounted from the rear and front side as well.

The mediaCON cable guarantees the performance of 10 Gb/s and up to 100 W of power.

The overmolded housing of the cable is designed for a ruggedized strain relief and protects the housing from mechanical stress.

USB Type-C cable with over molded
flex relief and rugged cable

USB Type-C Cable

NMK-20U-*

- Guaranteed performance up to 10 Gb/s (USB 3.1 Gen.II compatibility)**
- Push Pull mating design provides secure locking system if mated with NMC-*
- Reversible USB-C housing Provide power up to 100 W (@5A/20V)
- Shielded connection – high noise immunity and EMI protection
- Mates with conventional USB-C receptacles

NMK-20U-*

14.5 [0.57"]

Type C
NEUTRIK

7.0 [0.276"]

47.2 [1.86"]

0.5 m [19.7"] / 1 m [39.4"]

** ... Performance will vary depending on your additional hardware and software components and configurations.

Lockable USB Type-C chassis

Lockable USB Type-C chassis and integral USB IF-approved receptacle

USB Type-C Chassis

NMC-C

- Push Pull mating design provides secure locking system if mated with NMK-20U*
- Reversible USB-C housing
- Front and rear side mountable
- Guiding housing for better protection of receptacles

USB Type-C Chassis & IF

NMC-C-HR

- Push Pull mating design provides secure locking system if mated with NMK-20U*
- Reversible USB-C housing
- Front and rear side mountable
- Guiding housing for better protection of receptacles
- With integrated USB IF approved receptacle

NMC-C

29.4 [1.16"]
21.9 [0.86"]
23.9 [0.94"]
31.4 [1.24"]
13.7 [0.54"]
16.2 [0.64"]
Ø 2.7 [0.106"]
23.6 [0.93"]
min. 20.0 [0.79"]
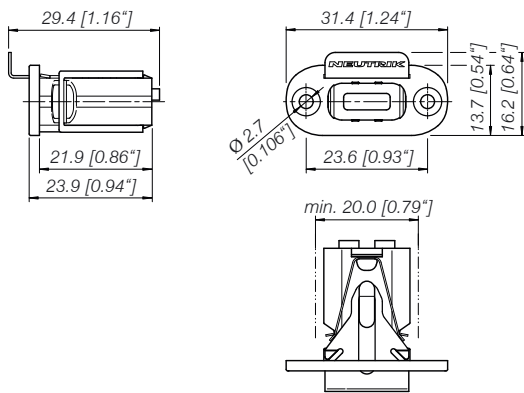
Specification		NMK-20U-* Cable	NMC-C Chassis	NMC-C-HR Chassis with IF
Electrical				
Rated current per contact	5 A	●	-	●
Rated voltage	20 V	●	-	●
Insulation resistance	10 MΩ	●	-	-
Conductor resistance	3 Ω	●	-	-
Transmission Performance	100 W	●	-	-
Materials				
Shell	TPE - Thermoplastic Elastomer	●	-	-
	Polyamide PA 6	-	●	●
Cable Jacket Type	PVC - Polyvinyl Chloride	●	-	-
Contacts	Brass CuZn37	●	-	-
Contact plating	Au	●	-	-
Latch lock & spring	Ck 67 steel, treated	-	●	●
Mechanical				
Life time (mating cycles)	> 10`000	●	●	●
Locking force	50 N	-	●	●
Locking device	latch lock	-	●	●
Orientation	Right Angle	-	●	●
PCB Mounting	HYBRID SMT+DIP	-	●	●
PCB surface center	1.58 mm	-	●	●
Environmental				
Operating temperature	-25 °C to +85 °C	●	●	●
Standard compliance	USB 3.1 Gen II; USB 3.2	●	●	●
Flammability	UL94HB	●	●	●
Environmentally Compliant	RoHS and Halogen Free	●	●	●

Ordering Information

Cable

NMK-20U-*	Lockable USB Type C cable with over molded flex relief and rugged strain relief
	*...length 0.5 m or 1.0 m

Chassis

NMC-C	Locking USB C Type chassis
NMC-C-HR	Lockable USB Type C chassis with integrated USB IF approved receptacle

opticalCON FIBER OPTIC SYSTEMS

RUGGED & RELIABLE

SUPERIOR QUALITY

DUST AND WATER RESISTANT - IP65

opticalCON Chassis

opticalCON **DUO**	opticalCON **QUAD**	opticalCON **MTP 12**	opticalCON **MTP 24**
NO2-4FDW-A	NO4FDW-A	NO12FDW-A	NO24FDW-A
Standard LC connector	Standard LC connector	MTP® ELITE MALE connnector	MTP® ELITE MALE connnector

opticalCON ADVANCED

opticalCON **DUO**	opticalCON **QUAD**	opticalCON **MTP 12**	opticalCON **MTP 24**

NKO2S-A*

NKO4S-A*

NKO12SA*

NKO24SA*

- 4 copper contacts
- 2 fibers

- 4 fibers

- 12 fibers

- 24 fibers

opticalCON LITE

opticalCON **DUO LITE**	opticalCON **QUAD LITE**	opticalCON **MTP 12 LITE**	opticalCON **MTP 24 LITE**

NKO2M-L*

NKO4M-L*

NKO12M-L*

NKO24M-L*

- 2 x 1.25 mm LC-ferrules

- 4 x 1.25 mm LC-ferrules

- 12 fiber - MTP® ferrule

- 24 fiber - MTP® ferrule

DRAGONFLY

opticalCON®

LOW MAINTENANCE AND EASY TO CLEAN

DUST AND WATERPROOF TO IP68 IN MATED CONDITION

RELIABLE PUSH/PULL LOCKING MECHANISM

HIGH PERFORMANCE – LOW LOSS

FUSION SPLICE TECHNOLOGY – FIELD REPAIRABLE

LONG LIFE – 10,000 MATING CYCLES

HYBRID CONNECTION – POWER AND DATA

PROVEN ANTI-KINK BOOT DESIGN

opticalCON **DRAGONFLY**

opticalCON DRAGONFLY is a ruggedized and low maintenance hybrid cable connector for indoor and outdoor use.

CAMERA CONNECTOR SYSTEM

NEUTRIK's new fiber optic connector series offers advanced lens technology for the Broadcast and AV Market. opticalCON DRAGONFLY is more robust, reliable and easier to maintain than common hybrid camera signal transmission systems.

With technology based on fiber lenses and fusion splicing, NEUTRIK's DRAGONFLY achieves an extremely robust signal with minimal loss. opticalCON DRAGONFLY combines all the advantages of lens technology and makes it competitive with physical contact connectivity.

The DRAGONFLY connector offers long life with very low maintenance. It can also withstand harsh and demanding environments and is dust and moisture insensitive. Additionally, DRAGONFLY is robust against vibration and therefore has low potential for damage. And if there ever is a problem, DRAGONFLY is field repairable. With this new technology, DRAGONFLY provides a complete solution for the Broadcast and AV Market.

INNOVATIVE AND FUTURE PROOF

- Fusion splice technology – field repairable
- High performance – low loss
- Consistent quality
- 100% reliable even at extreme temperature fluctuations
- Permanent connection

SIMPLE AND EFFICIENT

- Hybrid connection – power and data over one connection
- Low maintenance interval
- Easy switching to DRAGONFLY – fits into standardized cutouts
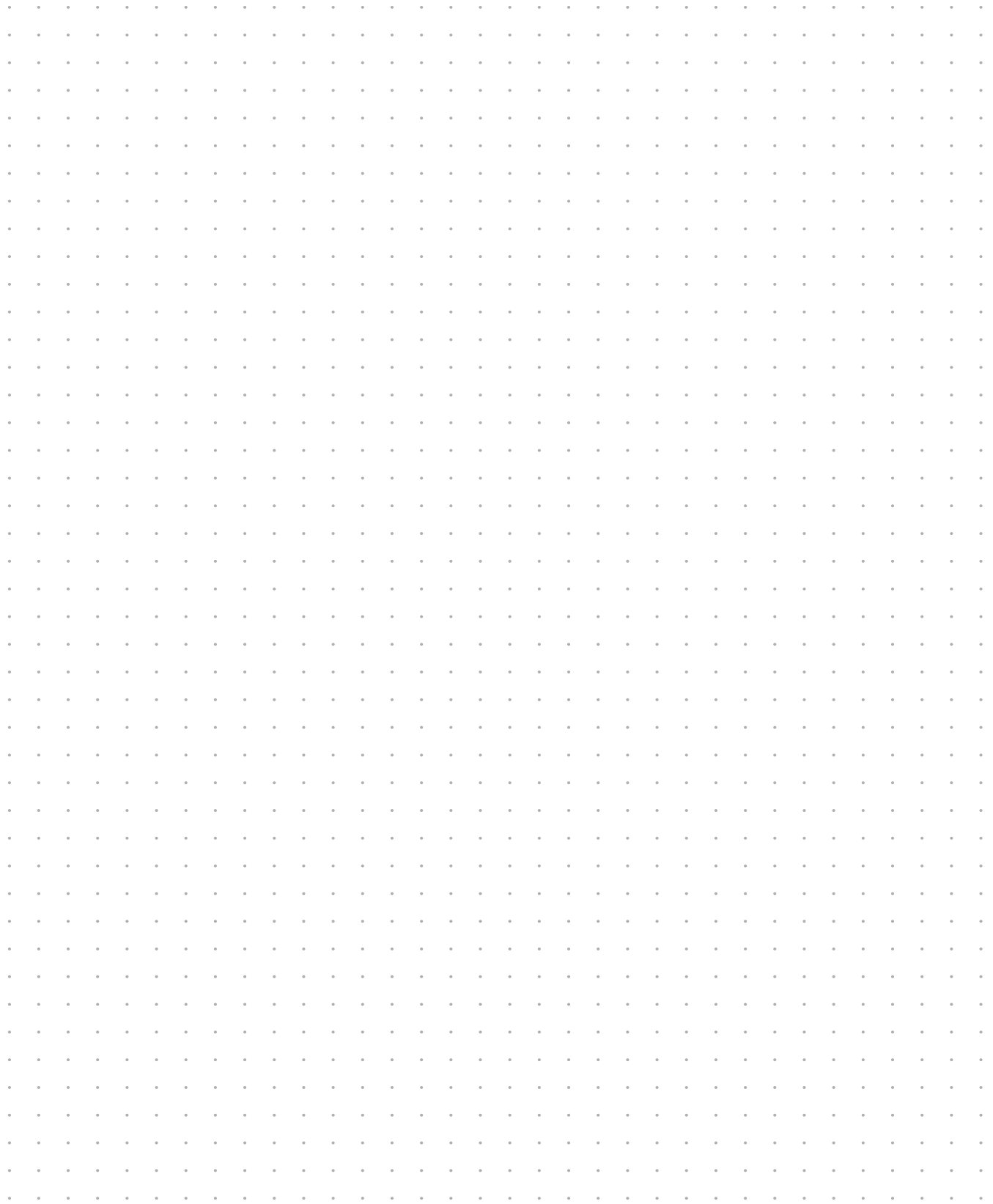- Easy cleaning with compressed air and water
- Competitive price

ROBUST AND RELIABLE

- Extremely robust system
- Reliable push/pull locking mechanism
- Dust and waterproof according to IP68
- Proven anti-kink boot design
- Long life – 10,000 mating cycles

opticalCON Technical Data

- For more information visit our website www.neutrik.com.

Definitions, Abbreviations & Useful Information

ELEMENTS

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

ALLOYS, PLASTICS, POLYMERS

Brass (Alloy)	CuZn39Pb3
Bronze (Alloy)	CuSn6
Ck 67	Carbon Steel
EPDM	Ethylene Propylene
GR	Glass Reinforced
PA	Polyamide
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
ℝ	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, crystalCON®, **ether**CON®, **max**CON®, **mini**CON®, **nano**CON®, **neutri**CON®, **optical**CON®, **power**CON®, **Profi**®, **rear**TWIST®, **silent**PLUG®, **speak**ON®, **TOP**®, **DiWA**®, **XIRIUM**®, are registered trademarks of Neutrik AG.

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
	-DA	Asymmetric PUSH
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	Lateral left PCB mount
	HR	Lateral 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	etherCON - RJ45
	F	RCA / CINCH
	J (MJ, RJ, SJ)	Jack
	K	Cable Assembly
	L	speakON - Loudspeaker
	M	Module
	O	opticalCON - Fiber Optic Connector
	P	Plug
	PP	Patch Panel
	R	Circular Connector
	T	Transformer
	TOP	True Outdoor Protection

NEUTRIK® Product Line

XLR Connectors

X Series	XX Series	TOP Series	RX Series	XS Series	A Series	AA Series	B Series	D Series	TOP Series	DL Series	DLX Series	P Series	MPR Series	Combo I Series	Combo A Series

| PX Series | | | | | | | | | | | | | | | |

Plugs & Jacks

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

speakON® Connectors

75 Ohm BNC Connectors

rearTWIST®   Female Cable Jack   Chassis   Bulkhead Jacks   Tiny Cable Jack

Circular Connectors

Data Connectors

opticalCON® Cable & Chassis Connectors

USB Cable & Chassis Connectors

mediaCON Cable & Chassis Connectors

etherCON® Cable & Chassis Connectors

etherCON® TOP

HDMI Cable & Chassis Connectors

powerCON® Connectors

powerCON® Cable & Chassis Connectors

powerCON® TRUE1® TOP Cable & Chassis Connectors

32 A powerCON® Cable & Chassis Connectors

Accessories

XLR Feedthrough

DMX Adapters

Circular Adapters

D Shape Adapters

AES / EBU Digital Impedance Transformer Adapters

Goosenecks

Modules & Audio Transformers

etherCON® CAT6A Adapter

Digital Devices

Mic,Line, AES/EBU I/O to Dante® Interface

XIRIUM® PRO

Patch Panels

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

NEUTRIK®

The premium brand of the Neutrik Group

LIECHTENSTEIN (HEADQUARTERS)
Neutrik AG, Im alten Riet 143, 9494 Schaan
T +423 237 24 24, F +423 232 53 93, neutrik@neutrik.com

GERMANY / NETHERLANDS / DENMARK / AUSTRIA
Neutrik Vertriebs GmbH, Felix-Wankel-Straße 1, 85221 Dachau, Germany
T +49 8131 28 08 90, neutrik@neutrik.de

GREAT BRITAIN
Neutrik (UK) Ltd., Westridge Business Park, Cothey Way
Ryde, Isle of Wight PO33 1 QT
T +44 1983 811 441, sales@neutrik.co.uk

FRANCE
Neutrik France SARL, 52 rue d'aguesseau, 1er etage, 92100 Boulogne-Billancourt
T +33 1 41 31 67 50, info@neutrik.fr

USA
Neutrik USA Inc., 4115 Taggart Creek Road, Charlotte, North Carolina, 28208
T +1 704 972 3050, info@neutrikusa.com

JAPAN
Neutrik Limited, Yusen-Higashinihonbashi-Ekimae Bldg., 3-7-19
Higashinihonbashi, Chuo-ku, Tokyo 103
T +81 3 3663 47 33, mail@neutrik.co.jp

HONG KONG
Neutrik Hong Kong Ltd., Suite 18, 7th Floor Shatin Galleria
Fotan, Shatin
T +852 2687 6055, sales@neutrik.com.hk

CHINA
Ningbo Neutrik Trading Co., Ltd., Shiqi Street, Yinxian Road West
Fengjia Villiage, Hai Shu Area, Ningbo, Zhejiang, 315153
T +86 574 88250833, sales@neutrik.com.cn

INDIA
Neutrik India Pvt. Ltd., Level 3, Neo Vikram, New Link Road,
Above Audi Show Room, Andheri West, Mumbai, 400053
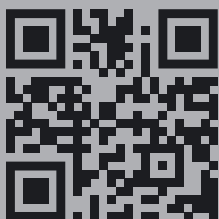T +91 982 05 43 424, anklesaria@neutrik.com

ASSOCIATED COMPANIES

Contrik AG
Steinackerstrasse 35, 8902 Urdorf, Switzerland
T +41 44 736 50 10, contrik@contrik.ch

H. Adam GmbH
Felix-Wankel-Straße 1, 85221 Dachau, Germany
T +49 08131 28 08-0, anfrage@adam-gmbh.de

www.neutrik.com