etherCON

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 IP 54 is achived on the CAT 5 version by assembling the waterproof sealing kit SE8FD while CAT 6 versions are IP 65 rated as standard and at the new CAT6A range it is customers choice to use the IP 65 protected receptacles or the unprotected versions.

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

Rugged diecast shell

Feedthrough

IDC Version

IP Protected

## etherCON CAT6A Series

NEW

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
- IP 65 protected version available
- PoE+ compliant according to 802.3at Type2
- Downwards compatible with the existing etherCON CAT5 range
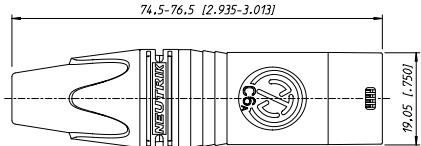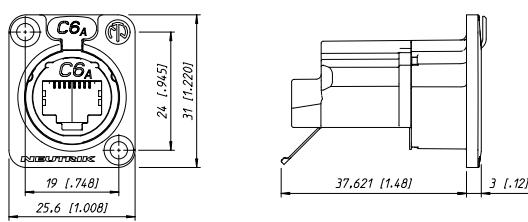
CAT6A / CAT5* compatibility:

etherCON CAT5e / A / B & D type

etherCON CAT6A

etherCON CAT6A

etherCON NE8MC*

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

24 [.945]
34 [1.339]
19 [.748]
29 [1.142]
29.5 [1.161]
4 [.157]
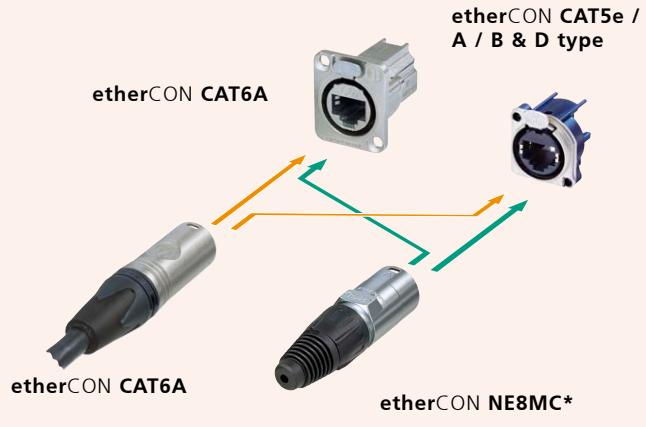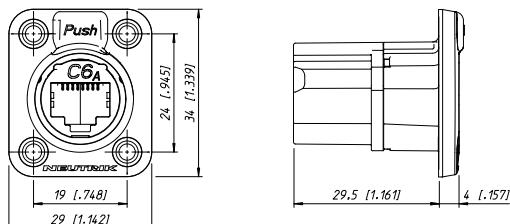
Technical Data

		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)	0.128 – 0.324 mm² (AWG 26/1 - AWG 22/1)
Stranded wire	0.111 – 0.355 mm² (AWG 27/7 - AWG 22/7)
Environmental	
Operating temperature	-40 °C to +70 °C
Storage temperature	-40 °C to +70 °C
Flammability	UL94V-0
Protection class	IP 65 in combination with "-W" receptacle

Ordering Information

Cable Connector

NE8MX6	etherCON cable connector Cat6A, nickel plating
NE8MX6-B	etherCON cable connector Cat6A, black plating

Receptacle

NE8FDX-P6	etherCON chassis C6A shielded feedthrough, nickel plating
NE8FDX-P6-B	etherCON chassis C6A shielded feedthrough, black plating
NE8FDX-Y6	etherCON chassis C6A shielded IDC, nickel plating
NE8FDX-Y6-B	etherCON chassis C6A shielded IDC, black plating
NE8FDX-P6-W	etherCON chassis C6A shielded feedthrough, with rubber sealing, IP65
NE8FDX-Y6-W	etherCON chassis C6A shielded IDC, with rubber sealing, IP65

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

## etherCON CAT5e A/B & D type Receptacle

NEW

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 at 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 NE8MC* cable carriers or any standard RJ45 plug
- D type receptacles - horizontal PCB or punch terminal (Krone or 110) design available

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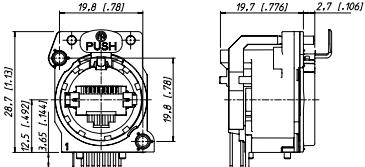
NE8FDV-Y110
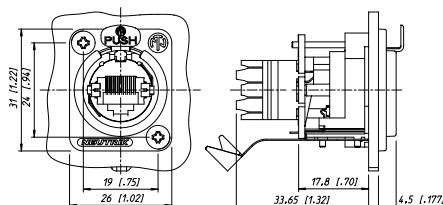
**NE8FBV-C5-LED-S**
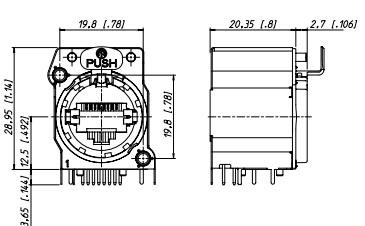
NE8FDH-C5E
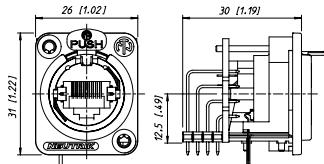
Horizontal PCB
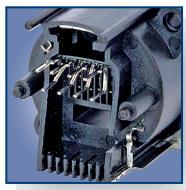
Vertical PCB

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 NE8MC carriers or any standard RJ45 Plug
- D-versions with unified metal flange equal to "D" series- XLR, speakON, powerCON and BNC Bulkhead

- Receptacles comply with Class D (PCB versions) or CAT 5e (IDC versions and NE8FDH-C5E) according to TIA / EIA 568B and ISO / IEC 11801 standard
- Version with screw domes to fix connector onto PCB securely (NE8FAV-SD)

NE8FAV

NE8FBH

NE8FAV-SD

NE8FDV

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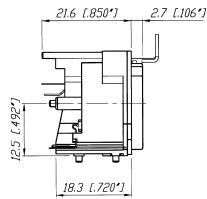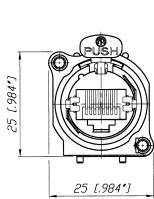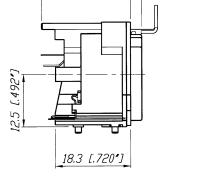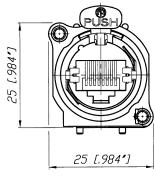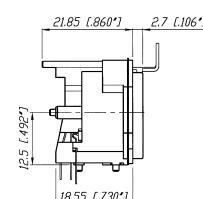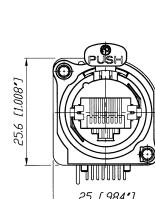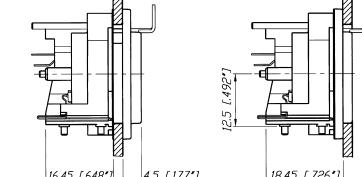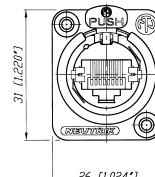
Completely closed housing

Light pipe
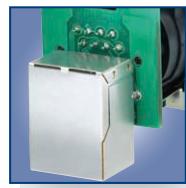
NE8FDP-R rear side

Locking latch

Rugged aluminium extrusion housing

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.

Feedthrough

NEW

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 NE8MC carriers or any standard RJ45 plugs

NE8FBH-S
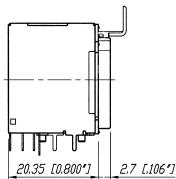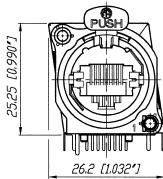
NE8FBH-LED
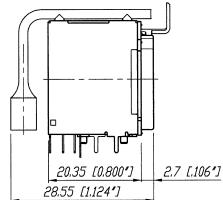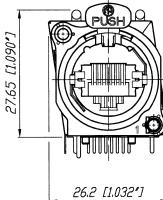
NE8FDP-R
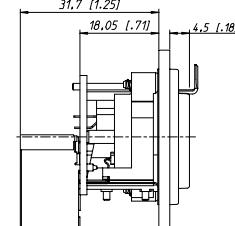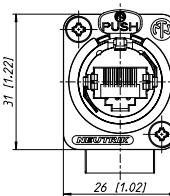
NE8FF
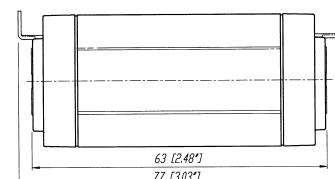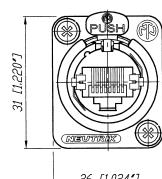
Rugged diecast shell

Colored coding
Bushing

etherCON – Cable Carriers

NE8MC-1

NE8MC-B

• The RJ45 system for harsh and demanding environment
• Cable connector carrier accepts the most common RJ45 plugs
• Cable connector carrier has rugged diecast shell and unique chuck type strain relief
• NE8MC-1 version with weatherproof Chromium plating and O-ring gasket
• Protects Ethernet connections in a variety of commercial type applications and is designed to prevent breakage of the fragile components of standard RJ45 connectors
• Cable connector carrier does not include RJ45 plug

NE8MC

ø19 [.75"]

54 [2.126"]

ø19 [.75"]

69 [2.717"]

NE8MC-1

ø19 [.75"]

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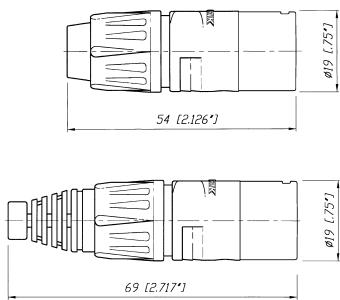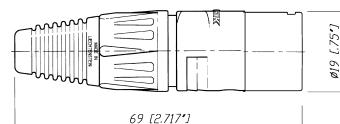
Specification		NE8MC* Cable Con.	NE8FA/B* (A + B Series)	NE8FD* (D Series)
Electrical				
Number of contacts	8	- [1]	●	●
Rated current per contact	< 1.5 A	- [1]	●	●
Rated voltage	< 50 V ac	- [1]	●	●
Contact resistance	< 10 mΩ	- [1]	●	●
Insulation resistance	> 500 MΩ	- [1]	●	●
Dielectric strength	> 1`000 V ac rms	- [1]	●	●
Frequency bandwidth	1 - 100 MHz	- [1]	●	●
Transmission class acc. TIA / EIA 568B or IEC 11801 - CAT 5e		- [1]	NE8*-C5* / NE8FA*-Y*	NE8FD*-C5e / NE8FD*-Y*
	Class D	- [1]	●	●
PoE + acc. IEEE 802.3at		- [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	3.5 - 8 mm	●	-	-
Wire size	AWG 26 – 20	- [1]	NE8*-Y*	NE8*-Y*
Panel thickness	max. 3 mm / 0.12"	-	●	4 mm / 0.16"
Material				
Housing	PBT D202G30	-	●	●
	Zinc diecast (ZnAlCu1, gal Ni / bl Cr / 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]	●	●
	Spring steel	NE8*C5*	●	●
Contact surface	Au (gal 0.2 µm over Ni plating)	- [1]	●	●
Locking Element	Ck 67 steel, treated	-	●	●
Bushing	Polyamide (PA 6 15% GR)	●	-	-
Boot	Polyamide (PA 6)	●	-	-
Sealing gasket	EPDM	-	-	SE8FD
Environment				
Operating Temperature	-30 °C to +80 °C	●	●	●
	-20 °C to +60 °C	-	-	SE8FD
Protection class	IP 54	-	-	SE8FD
Flammability	UL94V-0	UL94 HB	●	●
Solderability complies with	IEC 68-2-20	-	PCB Version	PCB Version
Mating screw		-	A screw	E screw
Color coding		BSE-* / BSX-*	ACRF-*	DSS-*

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

Ordering Information

	Shape					Termination				Remarks
	A	B	D	H	V	IDC	IDC 110	LED	S	
CAT 5e Receptacle										
NE8FAH-C5	●			●						
NE8FAV-C5	●				●					
NE8FAV-YK*	●					●				
NE8FAV-Y110*	●						●			
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-YK*			●			●				
NE8FDV-Y110*			●				●			
NE8FDP**			●							feedthrough
NE8FDP-SE			●							with sealing kit SE8FD
NE8FDP-R*			●							right angle port, feedthrough
NE8FDP-R-B*			●							right angle port, feedt., black plating
NE8FF			●							coupler, black plating
CLASS D Receptacle										
NE8FAH	●			●						
NE8FAV	●				●					
NE8FAV-SD*	●				●					Screw dome
NE8FBH		●		●						
NE8FBV		●			●					
NE8FDV			●		●					
NE8FDV-SE			●		●					with sealing kit SE8FD

Cable Carriers

NE8MC	Cable housing with chuck and bushing (two antikink boots, one up to 5 mm and one up to 8 mm cable O.D.)
	(standard bushing in black, 9 different coding colours on request)
NE8MC-B	Black chromium housing with chuck and bushing (two antikink boots, one for 5 mm and one for 8 mm cable O.D.)
	(standard bushing in black, 9 different coding colours on request)
NE8MC-1	Cable housing with chuck and X-series bushing, Collinox plating and O-ring gasket
	(perfect for waterproof applications, standard bushing in black, 9 different coding colours on request)
NE8MC-B-1	Black chromium housing with chuck and X-series bushing
	(standard bushing in black, 9 different coding colours on request)
IMPORTANT:	Cable connectors do not include RJ45 plug. RJ45 cable assembly must be provided by end-user!
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 * .... Including 2 mounting screws

Accessories

A screw

E screw

E screw Nickel

ACRF-*

DSS-*

BSE-*

BSX-*

SCDP-*

SCDX

NEW

SCCD-W

A-Screw	Mounting screw for A / B -shape (black self-tapping PLASTITE® screw 2.9 x 8, panhead)
E-Screw	Mounting screw for D-shape (black self-tapping PLASTITE® screw 2.9 x 12, countersunk)
E-Screw-Ni	Mounting screw for D-shape (Nickel self-tapping PLASTITE® screw 2.9 x 12, countersunk)
ACRF-*	Colored coding rings for A-shape receptacles (Box of 100 pcs.)
BSE-*	Colored boot for cable connector carrier (Box of 100 pcs.)
BSX-*	Colored bushing for NE8MC-1 and NE8MC-B-1 cable connectors
DSS-*	Lettering plate for D series, colored plastic
NZP1RU	Panel1RU D-shape housing
SCDP-*	D-Size sealing gaskets, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white)
SCDX	Hinged cover seals D-size chassis connectors, IP 42 rated
SCCD-W	Spring-loaded cover to seals for D-size chassis connectors, IP 65 rated

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

Waterproof kit for etherCON D-Series

Waterproof assembly kit - SE8FD

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

Push Pull locking
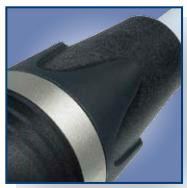
IP65 in mated condition

D-shape metal shell

Closed shielding

CAT6 Patch Cable


NKE6S-*

NE8MC6-MO

CAT6 Receptacles
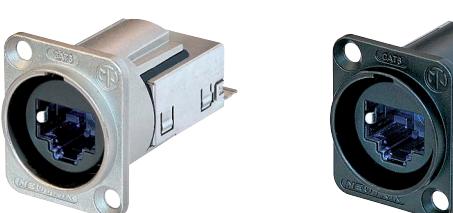
NE8FDY-C6

NE8FDY-C6-B

- CAT6 compliant – according to ISO / IEC 11801, TIA / EIA 568C.2, EN50173-1
- Dust and water resistant according IP 65 in mated condition
- Push Pull mating design provides secure locking system
- Shielded system – high noise immunity and EMI protection
- IDC contacts 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-*
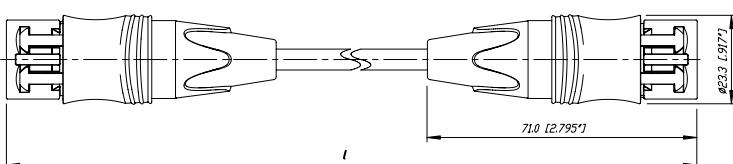
NE8FDY-C6

NE8MC6-MO

C A T 6
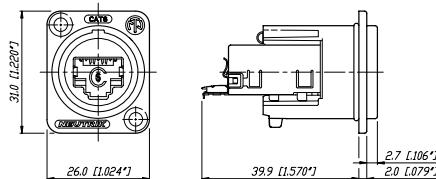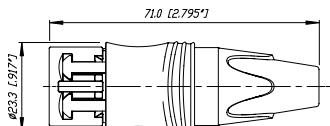
Technical Data

		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)		
Solid wire			
Environmental			
Operating temperature	-10 °C to +60 °C		
Storage temperature	-40 °C to +70 °C		
Flammability	UL94HB		
Protection class	IP 65		

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 109 / 114 / 118