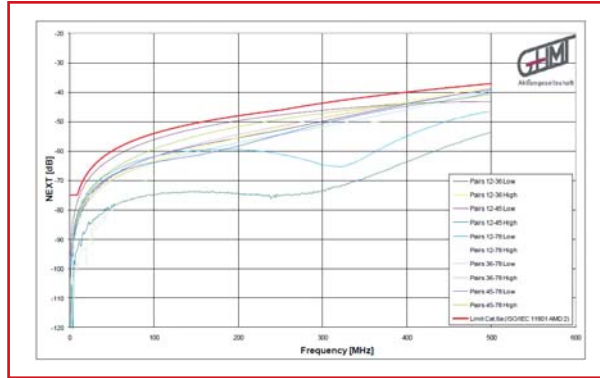


TOOLLESS LINE CAT6_A RE-EMBEDDED



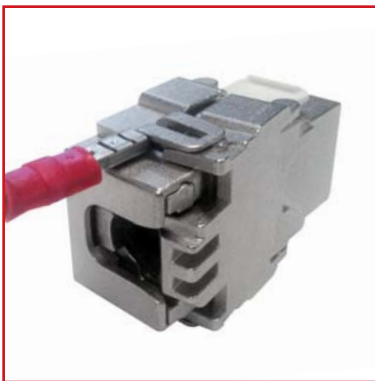
- CAT6_A 10 GB/s 500 MHz ISO/IEC 11801 AMD 2 (2010-04)
- CAT6_A COMPONENT CERTIFICATE
- CLASS E_A 2-CONNECTOR PERMANENT LINK (90m, 10m)

TOOLLESS LINE CAT6_A 10 GB/s 500MHz ISO/IEC 11801 RE-EMBEDDED



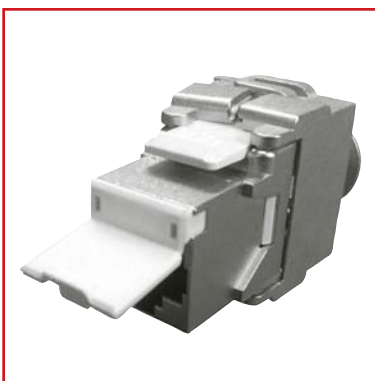
SCHRACK Technik added a new module with superior performance to the successful and well-established product family "TOOLLESS LINE".

This product family is well known for its "SO -> QUICK", "SO -> EASY", "SO -> SCHRACK" way of installation. For the new module, the compensation on the PCB, as well as the Pin-out of the gold-plated contact pins was updated according to the tough standard Cat.6_A 10GB/s 500 MHz ISO/IEC 11801 AMD 2 (2010-04).



To pass the requirements of **CAT6_A 10 GB/s 500 MHz ISO/IEC 11801 AMD 2 (2010-04)**, over the whole frequency range up to 500 MHz, for single component test, a completely new design of the high-frequency transmitting parts was necessary. It resulted in a high performance module, which was confirmed by the independent HF Test-laboratory GHMT in Germany. Additionally we can prove certification of a 90m 2-connector Permanent Link Class E_A, as well as a short link of 10m. Both Permanent Link Class E_A channels are certified in combination with the SCHRACK Cat.7 1000 MHz cable HSEKP423HB.

The big differences between Cat.6_A ISO/IEC 11801, Class E_A Channel ISO/IEC and TIA/EIA, please find in the chapter about standards on the next page.



Besides the high-frequency performance, there is also an improvement in 360° shield-contact. The **TOOLLESS LINE MODUL CAT6_A 10 GB/s 500 MHz ISO/IEC 11801 RE-EMBEDDED** is now contacted to the shield of the cable by a spring-type contact. This spring is fully integrated into the body of the module. Thus the cable is automatically contacted at correct pressure according to shield-transmission. It is the simplest, quickest and safest shield-contacting that is possible. Re-opening of the module, which is sometimes necessary during installation, is now also easier than it even was before. Also it is now possible to connect via a Fast-On connector to an earthing point.

Included in the package of our **TOOLLESS LINE MODUL CAT6_A 10 GB/s 500 MHz ISO/IEC 11801 RE-EMBEDDED EMBEDDED** is a dust-cover, that can be clipped on, if necessary. It protects the contact-pins against dust and contamination. Please take care that our TOOLLESS LINE data-outlets are already equipped with dust-covers. Thus we recommend the use of this dust-covers only for modules that are used in TOOLLESS LINE patchpanels.

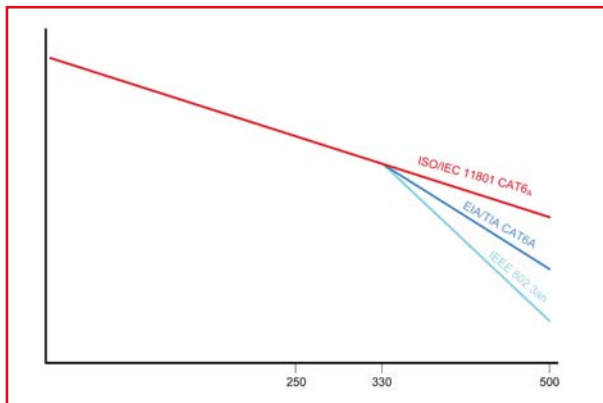
THE DETAIL IS THE DIFFERENCE

The relevant standards for future proof 10 GB/s IT-cabling systems in Europe and the USA do have different limit values per definition.

In the past, the limit values for generic structured cabling Classes and – Categories in the different regions (Europe and USA) have been very similar.

With the development of components according to Category 6_A in a link or channel according to Class E_A for a bandwidth of up to 500 Mhz, significant differences in the limit values arised.

The EN 50173, which is valid in Europe, is close to the international standard **ISO/IEC 11801**, which has much tougher limits than the TIA/EIA-standard, which is valid in the USA.



The ISO/IEC 11801 requires much stronger limits, which have to be fulfilled from the components. This higher performance gives safety and higher margin (reserve) in transmission quality to the installer during installation, as well as to the end-user during real work with the cabling system.

Thus products that are certified according to the single component test Cat.6_A ISO/IEC, cannot be compared to products that only fulfill requirements of Class E_A channel ISO/IEC or even only Cat.6A TIA/EIA.

TAKE CARE ABOUT THE DIFFERENT, STANDARIZED WRITING

Configuration	ISO/IEC & EN	TIA/EIA
Cabling (Channel + Permanent Link)	Class E _A	Cat.6 _A
Component	Cat.6 _A	Cat.6 _A

TAKE CARE ABOUT THE DIFFERENT, STANDARIZED LIMIT VALUES

AT 500 MHz Class E _A / Cat.6A	ISO/IEC & EN (dB)	TIA/EIA (dB)	ISO/IEC & EN stronger (dB)
NEXT Channel	27,9	26,1	1,8
NEXT Permanent Link	29,2	26,7	2,5
NEXT Component	37,0	34,0	3,0

TOOLLESS LINE CAT6_A 10 GB/s 500MHz ISO/IEC 11801 RE-EMBEDDED



HSEMRJ6GWA

SCHRACK-INFO

The new SCHRACK TOOLLESS LINE module is a toolless jacks and can be crimped without the need of a special tool. This results in a **very convenient and also very quick installation**. The module has been **COMPONENT-TESTED** and certified according to **CAT.6_A 10 GB/s 500 MHz ISO/IEC 11801 RE-EMBEDDED** by the independent, accredited German test laboratory GHMT. The module is now contacted to the shield of the cable by a spring-type contact, which is integrated into the EMC-compliant body and cannot be lost anymore. Enhanced electro magnetic compliance (EMC) performance is achieved by the 360° shielding and optimized overlapping of the bodyparts.

Till Q2/2011, the module comes without dustcover (cannot be upgraded later) and without spring-type shield-contact.

DESCRIPTION	ORDER NO.
TOOLLESS LINE RJ45 module CAT6 _A 10 GB/s 500 MHz ISO/IEC11801 RE-EMBEDDED, 360° shielded	HSEMRJ6GWA
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, white	HSEMRJZSKW
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, red	HSEMRJZSKR
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, blue	HSEMRJZSKB
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, green	HSEMRJZSKU
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, yellow	HSEMRJZSKY
TOOLLESS LINE Dustcover-set for HSEMRJ6GWA, 25 pieces, black	HSEMRJZSKS

DATAOUTLETS 80 x 80 MODULAR FOR TOOLLESS LINE MODULES



HSED01UW2S



HSED02UW2S



HSED03UW2S



HSED02UW1S

SCHRACK-INFO

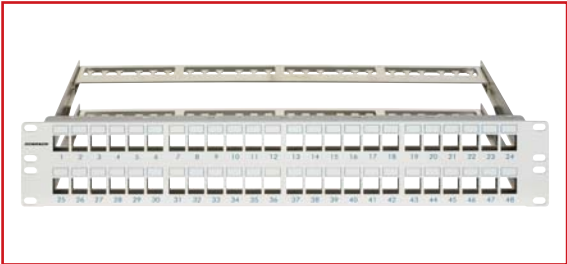
These system outlets comprise a die-cast zinc housing and are suitable for cable-duct installation (CI), for flush-mounting (FM) or for surface-mounting (SM) by means of a separate frame. Floor-Box-installation (FB) is possible for angled outlets by breaking away 2 fastening lugs. Each outlet comes with its own paper and window for labelling. Delivery also includes the central plate (50 x 50 mm) and the frame (80 x 80 mm). The angled outlets also have dust-protection flaps and a Fast On earthing point. The labeling window is also available as a separate accessory. Can be combined with switch-programs by use of a distance-frame.

DESCRIPTION	ORDER NO.
TOOLLESS LINE Dataoutlet CI/FM/FB for 1 module, angled, white similar to RAL9010, 80x80 mm	HSED01UW2S
TOOLLESS LINE Dataoutlet CI/FM/FB for 2 modules, angled, white similar to RAL9010, 80x80 mm	HSED02UW2S
TOOLLESS LINE Dataoutlet CI/FM/FB for 3 modules, angled, white similar to RAL9010, 80x80 mm	HSED03UW2S
TOOLLESS LINE Dataoutlet CI/FM for modules, straight, white similar to RAL9010, 80x80 mm	HSED02UW1S
TOOLLESS LINE Wallmount box for HSED0xUWxS, W80xH40xD80 mm, white similar to RAL9010, 80x40x80 mm	HSEAP842WF
TOOLLESS LINE Labeling paper, window + 2 screws for outlet, 45x10 mm, 1 PU = 10 pcs	HSEDZBES

TOOLLESS LINE PATCHPANEL MODULAR



HSER0240GS



HSER0480GS



HSER0080GV



HSERHUTADA



HSEMRZ01WF

SCHRACK-INFO

These Schrack panels come in Light-grey (RAL 7035). The 19" panels come with fixtures and fittings (cable ties, cage nuts, screws and washers M6), an earthing connection as well as a sturdy cable strain relief. The Desktop wall-mount panel can be affixed to the wall horizontally pointing upwards or downwards. A set of DIN rail clips can also be ordered as an accessory. These can be used to affix the wall-mount panel HSER0080GV to a DIN rail.

DESCRIPTION	ORDER NO.
TOOLLESS LINE Patch panel for 24 modules, empty, 1 U, 19", light-grey similar to RAL7035	HSER0240GS
TOOLLESS LINE Patch panel for 48 modules, empty, 2 U, 19", light-grey similar to RAL7035	HSER0480GS
TOOLLESS LINE Patch panel for 8 modules, empty, Desktop/Wall-mount, light-grey similar to RAL7035	HSER0080GV
TOOLLESS LINE DIN-rail adapter set for HSER0080GV, 1 Set = 2 clips	HSERHUTADA
TOOLLESS LINE blind-cover for unused patchpanel-ports, white similar to RAL9010, 1 PU = 25 pcs.	HSEMRZ01WF

SIDECUTTER



HTOOL00002

SCHRACK-INFO

A flat side cutter is needed to cut the copper wires of the installation cable correctly.

DESCRIPTION	ORDER NO.
Side cutter, flat, Copper up to 1,3 mm	HTOOL00002
Side cutter, flat, Copper up to 1,0 mm	HTOOL00003

LED PATCHCORDS RJ45 10 GB CLASS E_A SHIELDED



H6GSG00K5G

SCHRACK-INFO

- Light-functionality for quick and easy identification of connections
- For data-speed up to 10 Gigabit Ethernet
- Bandwith up to 500 MHz, Class E_A acc. to ISO/IEC 11801 Ed. 2

DESCRIPTION	LENGTH	ORDER NO.
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	0,5 m	H6GSG00K5G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	1,0 m	H6GSG01K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	2,0 m	H6GSG02K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	3,0 m	H6GSG03K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	5,0 m	H6GSG05K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	7,0 m	H6GSG07K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	10,0 m	H6GSG10K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	15,0 m	H6GSG15K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	20,0 m	H6GSG20K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	30,0 m	H6GSG30K0G
LED Patchcord Class E _A 10GB, shielded, grey, RJ45-RJ45	50,0 m	H6GSG50K0G

Available colors: H6GSx02K0G, Grey = G, Blue = B, Red = R, Yellow = Y, Green = U, Aqua = A

ACCESSORIES – PATCHFINDER AND COLOR CLIPS



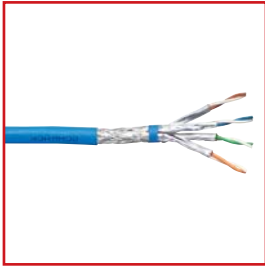
HLEDTOOL / HLEDCLIP

SCHRACK-INFO

- Light-source for SCHRACK LED-patchcords
- Work-modes: Permanent light, slow flashing and quick flashing
- Protection against incorrect use
- Batteries included in delivery (4 x LR41)

DESCRIPTION	ORDER NO.
Patchfinder Lightsource	HLEDTOOL
Color Clip, 100 pieces, red	HLEDCLIPR
Color Clip, 100 pieces, blue	HLEDCLIPB
Color Clip, 100 pieces, green	HLEDCLIPU
Color Clip, 100 pieces, yellow	HLEDCLIPY

■ COPPER-INSTALLATION-CABLE S/FTP CAT7_A AWG22 1200 MHz



HSEKP422HB

■ SCHRACK-INFO

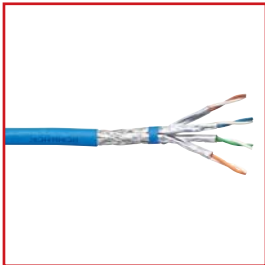
Installation-cable for generic, structured network cabling systems. Support applications requiring Class D to F_A (e.g. 10GBase-T, 1000Base-T, 100Base-TX, ATM) as well as VoIP, PoE.

■ TECHNICAL DATA

Construction:	Simplex: 4 individual screened pairs, all twisted together / Duplex: 2x4
Conductors:	Solid bare copper AWG22/1
Insulation:	Foamed polyethylene
Nominal diameter over insulation:	1,54 mm
Pair shielding:	Laminated aluminium polyester. Aluminium facing outside (PiMF)
Overall shielding:	Solid, tinned copper, coverage ≥ 50%
Ripcord:	Nylon
Outer Sheath:	LSOH-3, FRNC (flame-retardant)
Outside diameter:	Simplex: 8,1 mm ± 0,3 mm, Duplex: 8,1 mm ± 0,3 mm x 17,5 mm ± 0,5 mm
Jacket color:	Blue, RAL 5015
Temperature range during operating:	-30°C to +60°C
Temperature range during installation:	0°C to +50°C
Min. bend radius during operation/installation:	Simplex: 65 mm, Duplex: 65 mm
Max. pulling strength:	Simplex: 105 N, Duplex: 210 N
Flame retardency:	ISO/IEC 60332-3-24
Burning load:	Simplex: 600 kJ/m, Duplex 1200 kJ/m
Total cable weight:	Simplex: 69 kg/km, Duplex: 143 kg/km
Maximum operating voltage:	72 V DC
NVP (Nominal velocity of propagation):	0.73 c

DESCRIPTION	COPPERWEIGHT	PACKAGE	ORDER NO.
S/FTP Cable Cat7 _A 4x2xAWG22/1 LSOH-3, 1200 MHz, blue	35 kg/km	500 m, 1000 m	HSEKP422HB
S/FTP Cable Cat7 _A 2x(4x2xAWG22/1) LSOH-3, 1200 MHz, blue	70 kg/km	500 m	HSEKP822HB

■ COPPER-INSTALLATION-CABLE S/FTP CAT7 AWG23 1000 MHz



HSEKP423HB

■ SCHRACK-INFO

Installation-cable for generic, structured network cabling systems. Support applications requiring Class D to F (e.g. 10GBase-T, 1000Base-T, 100Base-TX, ATM) as well as VoIP, PoE.

■ TECHNICAL DATA

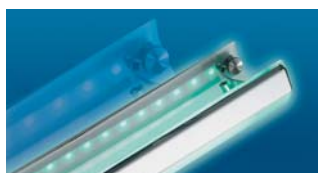
Construction:	Simplex: 4 individual screened pairs, all twisted together / Duplex: 2x4
Conductors:	Solid bare copper AWG23/1
Insulation:	Foamed polyethylene
Nominal diameter over insulation:	1,45 mm
Pair shielding:	Laminated aluminium polyester. Aluminium facing outside (PiMF)
Overall shielding:	Solid, tinned copper, coverage ≥ 40%
Ripcord:	Nylon
Outer Sheath:	LSOH, FRNC (flame-retardant)
Outside diameter:	Simplex: 7,2 mm ± 0,3 mm, Duplex: 7,2 mm ± 0,3 mm x 16,0 mm ± 0,5 mm
Jacket color:	Blue, RAL 5015
Temperature range during operating:	-30°C to +60°C
Temperature range during installation:	0°C to +50°C
Min. bend radius during operation/installation:	Simplex: 58 mm, Duplex: 58 mm
Max. pulling strength:	Simplex: 85 N, Duplex: 170 N
Flame retardency:	ISO/IEC 60332-1
Burning load:	Simplex: 500 kJ/m, Duplex 1000 kJ/m
Total cable weight:	Simplex: 53 kg/km, Duplex: 111 kg/km
Maximum operating voltage:	72 V DC
NVP (Nominal velocity of propagation)	0.78 c

DESCRIPTION	COPPERWEIGHT	PACKAGE	ORDER NO.
S/FTP Cable Cat7 4x2xAWG23/1 LSOH, 1000 MHz, blue	28 kg/km	100 m, 500 m, 1000 m	HSEKP423HB
S/FTP Cable Cat7 2x(4x2xAWG23/1) LSOH, 1000 MHz, blue	56 kg/km	500 m	HSEKP823HB

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