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#### **KNOWLEDGE**

Our specialists have over 40 years of experience in connectivity solutions, are up-to-date with the latest developments and can provide you with sound and independent advice.

#### **CONVENIENCE**

We offer you convenience in many ways. For example, we can provide you with a data feed containing key product, stock and price information relevant to your business. You can easily import this product information into your own ERP and website. Dropshipping is also possible, which means you do not need to keep stock yourself.

# ACT Connectivity Solutions ICT-, AV- and network solutions.

#### **QUALITY**

ACT meets and exceeds international standards and offers a 5-year warranty.

#### **SPEED**

With over a million products in stock, our cables and accessories are available directly from stock. This means we offer same day shipping.

#### **FLEXIBILITY**

In addition to an extensive range of standard cabling, ACT offers customised cables. Whether you need an adjustment in length, colour or connector, we will be able to supply it.

**COMPATIBILITY** 

Our connectivity solutions are

compatible with

the market.

existing brands in

# **ACT Connectivity Solutions:**

#### Connecting / Setting up a workplace

An optimally arranged workplace increases productivity and prevents health complaints. Do you want to set up a workplace efficiently and neatly? ACT offers various solutions for connecting a workplace.



#### **ICT-accessories**

• On the road

Are you on your way to a customer and your smartphone or laptop battery is dead? At ACT you will find a wide range of chargers.

• For in a meeting room

Fully equipped meeting rooms with audiovisual and technical facilities are a must for organising efficient meetings. ACT offers various solutions for setting up meeting rooms.



#### **Network solutions**

- Fiber- and copper cabling
- SFP modules
- Patch panels and cable management
- Accessories



#### Cable management

- To organise and guide bundled cablesTo seperate cables per application
- To identify specific ports



ACT supplies a wide range of products aimed at extension of audio and video signals.



#### **Power**

Power cables power your devices. ACT supplies many different types of power cables. All these cables stand for excellent performance (quality) and durability. All power cables from ACT comply with international standards.

# Custom made cables and cable specials

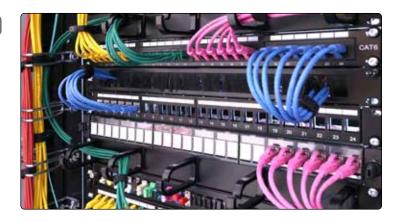
In addition to the extensive range of standard cables, ACT offers customised cables. Examples are adjustments in length, colour or connector. We also provide cables with customised labelling. Besides these modifications to existing standard cables, we design and manufacture cable specials for specific applications.

#### Cables in any desired colour and length

Cabling that is too long (also known as over-length) can cause signal loss or extra heat, for example, in a server cabinet. Prevent over-lengths by choosing custom-made cables and get started immediately without having to use tools first. We are specialised in supplying UTP network cabling, prefabricated fibre-optic cables, video cabling for HDMI and DisplayPort, data cables and USB cabling in any length.

#### Cables in any desired colour

The colour of the cable does not affect the functioning of the cable. However, for example for companies with large patch panels, coloured UTP cables can be useful for identifying certain wiring. Then customised cabling is the solution



#### Cables with labelling

Cable labelling provides marking of cables, making them easier to distinguish from each other. We see this a lot in server rooms, for example for specifying ports.

We can label different types of cables, such as copper network cables, fibre-optic cables, DAC cables and power cables.

You do not need to invest in printers. In consultation with us, you can specify what should be on the label and where the label should be placed on the

#### Cable specials

Cable specials: specially designed and manufactured cables Intronics has years of experience in markets and circumstances where standard connectivity does not offer the desired solution. Customer-specific requirements and application areas place special demands on a connectivity solution. Besides the adaptations to existing standard cables mentioned above, we design and manufacture cable specials for specific applications.

Our engineering department maps out your requirements and all details are fine-tuned. We produce a drawing of the defined cable, incorporating all specifications. Once the process has been completed and all parties are in agreement, the production process is started. We monitor the quality and the production process.

To ensure high quality standards, our processes are ISO9001-2015 and are constantly monitored with internal and external audits.

#### Advantages custom-made cables

- Flexibility: regarding cabling almost anything is possible
- Fast delivery
- Competitively priced
- Sound knowledge, in-house quality management
- Different length, colour or connector
- Cables with labelling





# Client specific solutions in 6 steps

Besides supplying standard stock products, developing and delivering client-specific products is an important part of our services. The wishes and requirements of our clients are key in this respect. Communication and cooperation with our clients are key factors in achieving a successful end result.



2 PLANNING
Your needs are identified and all details will be fine-tuned.

3 ENGINEERING
We produce a drawing of the cable in which alle specifications are included.

We select the right products that meet your requirements.

PROOF OF CONCEPT

We offer the possibility of a proof of concept.

6 PRODUCTION
Additional support is possible, such as configuration or commissioning of our products

#### **Construction Product Regulation (CPR)**

#### Wat is CPR fire safety regulation?

The social importance of fire safety is increasing. People spend most of their time in buildings, unaware of the dangers that are present in the field of fire. Despite the fact that approximately 90% of all fires that break out every year take place in buildings. Guaranteeing quality in the use of building materials is therefore essential. CPR is a standard for the fire classification of cables and electrical conduits in construction works. The abbreviation CPR stands for Construction Product Regulation. Roughly translated, it is a European regulation that ensures unambiguous requirements for the essential properties and performance that construction products must comply with

#### What is the purpose of CPR?

The Construction Products Regulation (CPR) aims to provide reliable information on construction products, with regard to the performance of the products and to minimise damage caused by fire from electrical lines. This is achieved through the provision of a "common technical language" by which uniform assessment methods for the performance of construction products are determined. These assessment methods are drawn up in harmonised technical specifications. This uniform technical language should be applied by:

- Manufacturers when communicating the performance of their
- Member state authorities when specifying requirements
- Users (architects, engineers, constructors, etc.) when choosing which products are best suited to the construction projects they will carry out.

#### Which cables are covered by the CPR?

The following cables are covered by the CPR:

- Cables intended to be used for providing electricity and communication in buildings and other civil engineering works and are subjected to fire performance requirements.
- Cables intended for the provision of electricity, communication, fire detection and alarm in buildings and other civil engineering

#### What performance characteristics of cables are covered by CPR? The cable performances covered by CPR are:

- Reaction to fire
- Functional retention
- Release of hazardous substances during normal use, dismantling and recycling

# Which fire classes apply to the reaction of fire?

For describing the reaction to fire of cables, cables are classified in a Euro classification consisting of seven fire classes and corresponding contribution to fire:



The four classes in bold (B2ca-s1,d1,a1, Cca-s1,d1,a1, Dca-s3,d2,a3 and Eca) are relevant to the Dutch NEN 8012. Heat release and fire propagation are the most important criteria. Smoke development, falling burning material and acidity of smoke gases are additionally classified.

#### Wat is the NEN 8012?

As described above, the CPR cables are classified in different fire classes. In order to determine the correct fire classification for the application of cables in buildings the NEN 8012 has been published in the Netherlands. The NEN 8012, which exists since 2015, incorporates the new European CPR requirements. The number of classifications is limited to four: B2ca-s1,d1,a1, Cca-s1,d1,a1, Dcas3.d2.a3 and Eca.

Fire risk	Classification cable	
low	Eca	
Medium size	D <sub>ca*</sub> s3.d2.a3	
Big	C <sub>ca</sub> -s1,d1,a1	
Very big	BZ <sub>ca</sub> -st,dt,at	



#### When shielded network cables?



A network cable can be affected by electromagnetic interference from outside. This is often caused by cables being too close to other electrical equipment or cables. Network cables can also interfere with each other ("alien crosstalk"). These interferences, can cause the network signal to no longer be transmitted properly. This causes errors in data transmission, possibly resulting in data loss. It can even lead to total failure of the network connection. Shielding is an important part of network cables as it helps to reduce electromagnetic interference (EMI).

Twisted Pair network cables are one of the most common types of cables used to connect computers, peripherals and other devices to the local area network (LAN). They consist of two or more conductors twisted around each other, which reduces electromagnetic interference (EMI).

An unshielded Twisted Pair U/UTP network cable is cheaper and easier to install than a Shielded cable. Shielded or shielded network cables have an extra conductive layer, also called shield. This type of shielding is applied around the entire cable and/or around the individual twisted wire pairs. This extra shielding reduces interference but also makes the cable more expensive and more difficult to install.

#### Shielding types:

- Foil shielding
- Braided shielding
- Combination of foil shielding and braided shielding

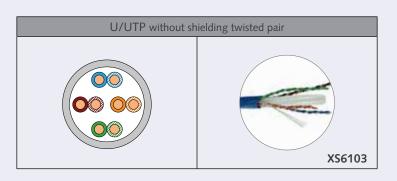
With shielding the cable is much better protected against unwanted interference and shielding ensures a stable and well-functioning network connection.

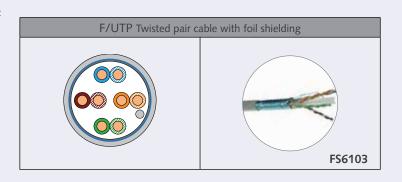
# In the following situations, it is recommended to use shielded cabling:

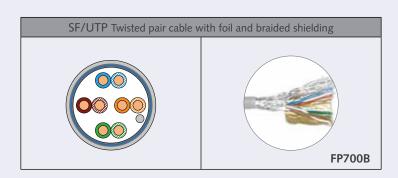
- Near high-voltage panels or cables
- Next to 230V power cables
- Important network connections, where maximum reliability is essential.

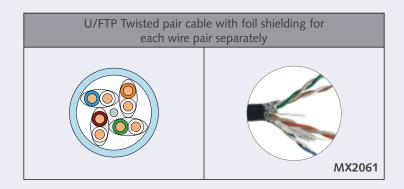
# What can be the advantages of choosing a non extra-shielded U/UTP cable?

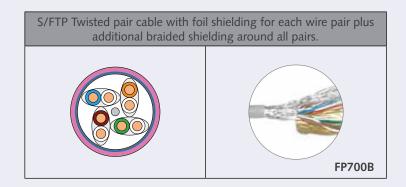
- Costs: a U/UTP cable is usually cheaper
- Installation: installation is easier because the unshielded cables are often more flexible and have a smaller diameter.
- Cable flexibility













#### **Category 8**

Categorie 8, ISO class 1 with a bandwith of 2000 MHz, can be used for 100 Mbps, 1000 Mbps, 10 Gigabit and for 40 Gigabit ethernet networks up to a maximum length of 30 meters.













# CAT8 patch cables

# ALT CAT8 S/FTP LSZH patch cable, AWG24 CU, 50μ gold-plated contacts



# CAT8 hardware range

# **ALT** CAT8 Keystone



HT2681

Description	Cable mounting	Colour	Type no.
Shielded toolfree	Back	Metal	<u>TD8511</u>

ACT keystones are compatible with all ACT hardware

# **ALT** CAT8 patch panel



Description	Ports	Applications	Type no.
Patch panel	24	Shielded and unshielded keystone jacks	<u>PP1030</u>

#### **ACT** Tools Description Type no. Krone Punch Tool for LSA plus 64172K UTP cable stripper for flat and round cables FHT501 Universal thumb-wheel adjustable cable stripper, for flat and round cables FHT502 Cutters made of steel alloy HT222 Cable tester UTP/STP/FTP/BNC DX220 Cable tester UTP/BNC/STP DX240 Punch tool for 110 block TD060 Metal crimping pliers to cut, strip cable and crimp connectors TD005 Modular crimping pliers RJ45 for cables with an outer diameter of 7 to 8 mm $\,$ WL2000 Crimping pliers for RJ-10, RJ-11, RJ-12, RJ-45 and DEC connectors **TDCOMB**



#### CAT7

Mounting kit packed in plastic case

#### CAT7 patch cables



ACT	CAT	7 S/FTP PUR	flex patch cal	ble snagless	with RJ45 co	nnectors (CA	T6A compliar	1t)

Colour	0,5m	1m	1,5m	2m	3m	5m	7m	10m	15m	20m
Black	FB8500	FB8501	FB8551	<u>FB8502</u>	FB8503	<u>FB8505</u>	FB8507	FB8510	<u>FB8515</u>	FB8520



#### Category 6A

Category 6A, ISO Class EA with a bandbwith of 500 MHz, can be used for 100 Mbps, 1000 Mbps and 10 Gigabit ethernet networks with a maximum length of 100 meter. These cables can also be used for other protocols than Ethernet, such as Profinet, ATM, Token Ring and RS-232 up to a distance of 100 meters.













### CAT6A patch cables

# **ALT** CAT6A U/UTP PVC patch cable, AWG24 CU, 50μ gold-plated contacts

Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m
Ivory	<u>IB3352</u>	<u>IB3300</u>	<u>IB3301</u>	<u>IB3351</u>	<u>IB3302</u>	<u>IB3303</u>	<u>IB3305</u>	<u>IB3307</u>	<u>IB3310</u>	<u>IB3315</u>	<u>IB3320</u>
Grey	<u>IB3452</u>	<u>IB3400</u>	<u>IB3401</u>	<u>IB3451</u>	<u>IB3402</u>	<u>IB3403</u>	<u>IB3405</u>	<u>IB3407</u>	<u>IB3410</u>	<u>IB3415</u>	<u>IB3420</u>
Red		<u>IB3700</u>	<u>IB3701</u>	<u>IB3751</u>	<u>IB3702</u>	<u>IB3703</u>	<u>IB3705</u>	<u>IB3707</u>	<u>IB3710</u>	<u>IB3715</u>	<u>IB3720</u>
Blue		<u>IB3800</u>	<u>IB3801</u>	<u>IB3851</u>	<u>IB3802</u>	<u>IB3803</u>	<u>IB3805</u>	<u>IB3807</u>	<u>IB3810</u>	<u>IB3815</u>	<u>IB3820</u>
Green		<u>IB3900</u>	<u>IB3901</u>	<u>IB3951</u>	<u>IB3902</u>	<u>IB3903</u>	<u>IB3905</u>	<u>IB3907</u>	<u>IB3910</u>	<u>IB3915</u>	<u>IB3920</u>
Yellow		<u>IB4100</u>	<u>IB4101</u>	<u>IB4151</u>	<u>IB4102</u>	<u>IB4103</u>	<u>IB4105</u>	<u>IB4107</u>	<u>IB4110</u>	<u>IB4115</u>	<u>IB4120</u>
Black		<u>IB4200</u>	<u>IB4201</u>	<u>IB4251</u>	<u>IB4202</u>	<u>IB4203</u>	<u>IB4205</u>	<u>IB4207</u>	<u>IB4210</u>	<u>IB4215</u>	<u>IB4220</u>
Orange		<u>IB4300</u>	<u>IB4301</u>	<u>IB4351</u>	<u>IB4302</u>	<u>IB4303</u>	<u>IB4305</u>	<u>IB4307</u>	<u>IB4310</u>	<u>IB4315</u>	<u>IB4320</u>
Brown		<u>IB4400</u>	<u>IB4401</u>	<u>IB4451</u>	<u>IB4402</u>	<u>IB4403</u>	<u>IB4405</u>	<u>IB4407</u>	<u>IB4410</u>	<u>IB4415</u>	<u>IB4420</u>
Purple		<u>IB6600</u>	<u>IB6601</u>	<u>IB6651</u>	<u>IB6602</u>	<u>IB6603</u>	<u>IB6605</u>	<u>IB6607</u>	<u>IB6610</u>	<u>IB6615</u>	<u>IB6620</u>
Pink		<u>IB7300</u>	<u>IB7301</u>	<u>IB7351</u>	<u>IB7302</u>	<u>IB7303</u>	<u>IB7305</u>	<u>IB7307</u>	<u>IB7310</u>	<u>IB7315</u>	<u>IB7320</u>
White		<u>IB9300</u>	<u>IB9301</u>	<u>IB9351</u>	<u>IB9302</u>	<u>IB9303</u>	IB9305	IB9307	<u>IB9310</u>	<u>IB9315</u>	<u>IB9320</u>

# **ALT** CAT6A U/UTP PVC snagless patch cable, AWG24 CU, 50μ gold-plated contacts

Colour	0.25m	0.5m	1m	1.5m	2m	2.5m	3m	4m	5m	7m	10m	15m	20m
Ivory	<u>IB3252</u>	<u>IB3200</u>	<u>IB3201</u>	<u>IB3251</u>	<u>IB3202</u>		<u>IB3203</u>		<u>IB3205</u>	<u>IB3207</u>	<u>IB3210</u>	<u>IB3215</u>	<u>IB3220</u>
Grey	<u>IB3052</u>	<u>IB3000</u>	<u>IB3001</u>	<u>IB3051</u>	<u>IB3002</u>	<u>IB3053</u>	<u>IB3003</u>	<u>IB3004</u>	<u>IB3005</u>	<u>IB3007</u>	<u>IB3010</u>	<u>IB3015</u>	<u>IB3020</u>
Red	<u>IB2552</u>	<u>IB2500</u>	<u>IB2501</u>	<u>IB2551</u>	<u>IB2502</u>		<u>IB2503</u>		<u>IB2505</u>	<u>IB2507</u>	<u>IB2510</u>	<u>IB2515</u>	<u>IB2520</u>
Blue	<u>IB2652</u>	<u>IB2600</u>	<u>IB2601</u>	<u>IB2651</u>	<u>IB2602</u>		<u>IB2603</u>		<u>IB2605</u>	<u>IB2607</u>	<u>IB2610</u>	<u>IB2615</u>	<u>IB2620</u>
Green	<u>IB2752</u>	<u>IB2700</u>	<u>IB2701</u>	<u>IB2751</u>	<u>IB2702</u>		<u>IB2703</u>		<u>IB2705</u>	<u>IB2707</u>	<u>IB2710</u>	<u>IB2715</u>	<u>IB2720</u>
Yellow	<u>IB2852</u>	<u>IB2800</u>	<u>IB2801</u>	<u>IB2851</u>	<u>IB2802</u>		<u>IB2803</u>		<u>IB2805</u>	<u>IB2807</u>	<u>IB2810</u>	<u>IB2815</u>	<u>IB2820</u>
Black	IB2952	IB2900	IB2901	IB2951	IB2902		IB2903		IB2905	<u>IB2907</u>	<u>IB2910</u>	IB2915	<u>IB2920</u>
Orange		<u>IB2100</u>	<u>IB2101</u>	<u>IB2151</u>	<u>IB2102</u>		<u>IB2103</u>		<u>IB2105</u>	<u>IB2107</u>	<u>IB2110</u>	<u>IB2115</u>	<u>IB2120</u>
Brown		<u>IB2200</u>	<u>IB2201</u>	<u>IB2251</u>	<u>IB2202</u>		<u>IB2203</u>		<u>IB2205</u>	<u>IB2207</u>	<u>IB2210</u>	<u>IB2215</u>	<u>IB2220</u>
Purple		<u>IB2300</u>	<u>IB2301</u>	<u>IB2351</u>	<u>IB2302</u>		<u>IB2303</u>		<u>IB2305</u>	<u>IB2307</u>	<u>IB2310</u>	<u>IB2315</u>	<u>IB2320</u>
Pink		<u>IB2400</u>	<u>IB2401</u>	<u>IB2451</u>	<u>IB2402</u>		<u>IB2403</u>		<u>IB2405</u>	<u>IB2407</u>	<u>IB2410</u>	<u>IB2415</u>	<u>IB2420</u>
White		<u>IB6300</u>	<u>IB6301</u>	<u>IB6351</u>	<u>IB6302</u>		<u>IB6303</u>		<u>IB6305</u>	<u>IB6307</u>	<u>IB6310</u>	<u>IB6315</u>	<u>IB6320</u>

# **ALT** CAT6A U/UTP LSZH patch cable, AWG24 CU, 50μ gold-plated contacts

Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m
Ivory	<u>IB1052</u>	<u>IB1000</u>	<u>IB1001</u>	<u>IB1051</u>	<u>IB1002</u>	<u>IB1003</u>	<u>IB1005</u>	<u>IB1007</u>	<u>IB1010</u>	<u>IB1015</u>	<u>IB1020</u>
Grey	<u>IB1152</u>	<u>IB1100</u>	<u>IB1101</u>	<u>IB1151</u>	<u>IB1102</u>	<u>IB1103</u>	<u>IB1105</u>	<u>IB1107</u>	<u>IB1110</u>	<u>IB1115</u>	<u>IB1120</u>
Red		<u>IB1200</u>	<u>IB1201</u>	<u>IB1251</u>	<u>IB1202</u>	<u>IB1203</u>	<u>IB1205</u>	<u>IB1207</u>	<u>IB1210</u>		
Blue		<u>IB1300</u>	<u>IB1301</u>	<u>IB1351</u>	<u>IB1302</u>	<u>IB1303</u>	<u>IB1305</u>	<u>IB1307</u>	<u>IB1310</u>		
Green		<u>IB1400</u>	<u>IB1401</u>	<u>IB1451</u>	<u>IB1402</u>	<u>IB1403</u>	<u>IB1405</u>	<u>IB1407</u>	<u>IB1410</u>		
Yellow		<u>IB1900</u>	<u>IB1901</u>	<u>IB1951</u>	<u>IB1902</u>	<u>IB1903</u>	<u>IB1905</u>	<u>IB1907</u>	<u>IB1910</u>		
Black		<u>IB3500</u>	<u>IB3501</u>	<u>IB3551</u>	<u>IB3502</u>	<u>IB3503</u>	<u>IB3505</u>	<u>IB3507</u>	<u>IB3510</u>		

# $\pmb{\mathsf{ALT}}$ CAT6A U/UTP PVC cross-over patch cable, AWG24 CU, 50 $\mu$ gold-plated contacts

		<u> </u>				1
Colour	0.5m	1m	1.5m	2m	3m	5m
cable tule	IB6200	IB6201	IB6251	IB6202	IB6203	IB6205



## CAT6A patch cables

# **ALT** CAT6A S/FTP PVC PIMF snagless patch cables, AWG26 CU, 50μ gold-plated contacts



Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m
Ivory	FB6052	FB6000	FB6001	FB6051	FB6002	FB6003	FB6005	FB6007	FB6010	FB6015	FB6020	FB6025	FB6030
Grey	FB3052	FB3000	FB3001	FB3051	FB3002	FB3003	FB3005	FB3007	FB3010	FB3015	FB3020	FB3025	FB3030
Red		FB6500	FB6501	FB6551	FB6502	FB6503	FB6505	FB6507	FB6510	FB6515	FB6520	FB6525	FB6530
Blue		FB6600	FB6601	FB6651	FB6602	FB6603	FB6605	FB6607	FB6610	FB6615	FB6620	FB6625	FB6630
Green		FB6700	FB6701	FB6751	FB6702	FB6703	FB6705	FB6707	FB6710	FB6715	FB6720	FB6725	FB6730
Yellow		FB6800	FB6801	FB6851	FB6802	FB6803	FB6805	FB6807	FB6810	FB6815	FB6820	FB6825	FB6830
Black		FB6900	FB6901	FB6951	FB6902	FB6903	FB6905	FB6907	FB6910	FB6915	FB6920	FB6925	FB6930
Orange		FB2100	FB2101	FB2151	FB2102	FB2103	FB2105	FB2107	FB2110	FB2115	FB2120	FB2125	FB2130
Brown		FB2200	FB2201	FB2251	FB2202	FB2203	FB2205	FB2207	FB2210	FB2215	FB2220	FB2225	FB2230
Purple		FB2300	FB2301	FB2351	FB2302	FB2303	FB2305	FB2307	FB2310	FB2315	FB2320	FB2325	FB2330
Pink		FB2400	FB2401	FB2451	FB2402	FB2403	FB2405	FB2407	FB2410	FB2415	FB2420	FB2425	FB2430
White		FB6400	FB6401	FB6451	FB6402	FB6403	FB6405	FB6407	FB6410	FB6415	FB6420	FB6425	FB6430

# **ALT** CAT6A S/FTP PIMF LSZH patch cables AWG26 CU, 50μ gold-plated contacts



Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m
Ivory	<u>IB3652</u>	<u>IB3600</u>	IB3601	<u>IB3651</u>	IB3602	<u>IB3603</u>	<u>IB3605</u>	IB3607	<u>IB3610</u>	<u>IB3615</u>	<u>IB3620</u>	<u>IB3625</u>	<u>IB3630</u>
Grey	<u>IB4052</u>	<u>IB4000</u>	<u>IB4001</u>	<u>IB4051</u>	<u>IB4002</u>	<u>IB4003</u>	<u>IB4005</u>	<u>IB4007</u>	<u>IB4010</u>	<u>IB4015</u>	<u>IB4020</u>	<u>IB4025</u>	<u>IB4030</u>
Red		<u>IB5000</u>	<u>IB5001</u>	<u>IB5051</u>	<u>IB5002</u>	<u>IB5003</u>	<u>IB5005</u>	<u>IB5007</u>	<u>IB5010</u>				
Blue		<u>IB5300</u>	<u>IB5301</u>	<u>IB5351</u>	<u>IB5302</u>	<u>IB5303</u>	<u>IB5305</u>	<u>IB5307</u>	<u>IB5310</u>				
Green		<u>IB7400</u>	<u>IB7401</u>	<u>IB7451</u>	<u>IB7402</u>	<u>IB7403</u>	<u>IB7405</u>	<u>IB7407</u>	<u>IB7410</u>				
Yellow		<u>IB9100</u>	<u>IB9101</u>	<u>IB9151</u>	<u>IB9102</u>	<u>IB9103</u>	<u>IB9105</u>	<u>IB9107</u>	<u>IB9110</u>				
Black		<u>IB9200</u>	<u>IB9201</u>	<u>IB9251</u>	<u>IB9202</u>	<u>IB9203</u>	<u>IB9205</u>	<u>IB9207</u>	<u>IB9210</u>				

# $\pmb{\mathsf{ALT}}$ CAT6A S/FTP PIMF, LSZH patch cables snagless AWG26 CU, 50 $\mu$ gold-plated contacts



Colour	0.25m	0.5m	1m	1,5m	2m	3m	5m	7m	10m	15m	20m	25m	30m
Ivory	FB7452	FB7400	FB7401	FB7451	FB7402	FB7403	FB7405	FB7407	FB7410	FB7415	FB7420	FB7425	FB7430
Grey	FB7052	<u>FB7000</u>	FB7001	FB7051	FB7002	<u>FB7003</u>	<u>FB7005</u>	<u>FB7007</u>	<u>FB7010</u>	FB7015	FB7020	FB7025	<u>FB7030</u>
Red		<u>FB7500</u>	FB7501	FB7551	FB7502	FB7503	<u>FB7505</u>	<u>FB7507</u>	<u>FB7510</u>	FB7515	FB7520	FB7525	<u>FB7530</u>
Blue		FB7600	FB7601	FB7651	FB7602	FB7603	FB7605	FB7607	FB7610	FB7615	FB7620	FB7625	FB7630
Green		<u>FB7700</u>	FB7701	FB7751	FB7702	FB7703	FB7705	<u>FB7707</u>	FB7710	FB7715	FB7720	FB7725	<u>FB7730</u>
Yellow		<u>FB7800</u>	FB7801	FB7851	FB7802	FB7803	<u>FB7805</u>	FB7807	<u>FB7810</u>	FB7815	FB7820	FB7825	<u>FB7830</u>
Black		<u>FB7900</u>	FB7901	FB7951	FB7902	FB7903	<u>FB7905</u>	<u>FB7907</u>	<u>FB7910</u>	FB7915	FB7920	FB7925	<u>FB7930</u>
Orange		FB7100	FB7101	FB7151	FB7102	FB7103	FB7105	FB7107	FB7110	FB7115	FB7120	FB7125	<u>FB7130</u>
Purple		FB8700	FB8701	FB8751	FB8702	FB8703	FB8705	FB8707	FB8710	FB8715	FB8720	FB8725	FB8730
Pink		FB8800	FB8801	FB8851	FB8802	FB8803	FB8805	FB8807	FB8810	FB8815	FB8820	FB8825	FB8830
White		FB7300	FB7301	FB7351	FB7302	FB7303	FB7305	FB7307	FB7310	FB7315	FB7320	FB7325	<u>FB7330</u>

# ALT CAT6A U/FTP PVC High Flex Tangle-Free patch cables, AWG26 CU, 50µ gold-plated contacts



Colour	0.5m	1m	1,5m	2m	3m	5m	7m	10m	15m	20m
DI. J.	EDECOO	EDE004	EDEOE4	FREGOS	EDE 000	FREGOE	EDE003	EDE040	EDE04E	EDECOO



#### When to use Slimline patch cables?

Slimline patch cables can be used when cable space is limited, such as in data centers. The slimline patch cable is 40% thinner than the conventional patch cable and reduces the required cable space in racks, which results in easier cable management. Slimline patch cables are used for direct connection of the equipment.

#### The main advantages of Slimline patch cables:

• Better cable management space-saving:

De slimline patch cablen has a smaller diameter, saving valuable space in your server room. Especially wehn bundling slimline patch cables, less volume is used. Together with greater flexibility, cable management improves significantly.

#### • Snagless boots:

A snagless boot has a small flap that covers the RJ45 protective tab. This flap prevents the cover tab from breaking or becoming entangled with other cables during installation or re-patching.

All our slimline patch cables are equipped with snagless connectors.





CAT6A U/FTP LSZH data center slimline patch cables, AWG32 CU, 50µ gold-plated contacts										16/16
Colour	0.15m	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m
Grey	DC7030	DC7052	DC7000	DC7001	DC7051	DC7002	DC7003	DC7005	DC7007	DC7010
Red	DC7530	DC7552	DC7500	DC7501	DC7551	DC7502	DC7503	DC7505	DC7507	DC7510
Blue	DC7630	DC7652	DC7600	DC7601	DC7651	DC7602	DC7603	DC7605	DC7607	DC7610
Green	<u>DC7730</u>	DC7752	DC7700	DC7701	DC7751	DC7702	DC7703	DC7705	DC7707	DC7710
Yellow	<u>DC7830</u>	DC7852	DC7800	DC7801	DC7851	DC7802	DC7803	DC7805	DC7807	DC7810
Black	DC7930	DC7952	DC7900	DC7901	DC7951	DC7902	DC7903	DC7905	DC7907	DC7910
Orange	DC7130	DC7152	DC7100	DC7101	DC7151	DC7102	DC7103	DC7105	DC7107	DC7110
Brown	DC7230	DC7252	DC7200	DC7201	DC7251	DC7202	DC7203	DC7205	DC7207	DC7210
Purple	DC7330	DC7352	DC7300	DC7301	DC7351	DC7302	DC7303	DC7305	DC7307	DC7310
Pink	DC7430	DC7452	DC7400	DC7401	DC7451	DC7402	DC7403	DC7405	DC7407	DC7410
White	DC6930	DC6952	DC6900	DC6901	DC6951	DC6902	DC6903	DC6905	DC6907	DC6910

<b>ALT</b> CA	T6A S/FTP LSZH MPT	L extension cable AW	G26 CU, 50µ gold-pla	ted contacts		The state of the s
Colour	1m	2m	3m	5m	7m	10m
Blue	FB1501	FB1502	FB1503	FB1505	FB1507	FB1510

# CAT6A hardware range

# **ALT** CAT6A modular surface mount box/in-wall box



Description	Description	Connector	Type no.
Shielded	Modular surface mount box	1 x RJ45, 1 x IDC	<u>FA7005</u>
Shielded	Modular surface mount box	2 x RJ45, 2 x IDC	<u>FA7004</u>
Shielded	Modular surface mount box	8 x RJ45, 8 x IDC	<u>FA7001</u>
Keystone outlet	In-wall keystone jack box	2 x keystone jack	<u>FA6010</u>

# **ALT** CAT6A keystone



Description	Cable attachment	Colour	Type no.			
Unshielded toolfree	Dowm	Black	<u>TD6016</u>			
Unshielded toolfree	Down	White	<u>TD6017</u>			
Shielded punch	Back	Metal	<u>TD6511</u>			
Shielded punch down	Down	Metal	<u>TD6023</u>			
Shielded toolfree	Back	Metal	<u>TD6510</u>			
Keystone coupler RJ45 Shielded	Back	Metal	<u>SD6519</u>			
ACT keystones are compatible with all ACT hardware						

# ALT Inline Coupler and modular RJ-45 coupler CAT6A



Description	Type no.	
Shielded	Inline Coupler CAT6A 2x IDC	<u>SD6520</u>
Shielded	Inline Coupler CAT6A 2x RJ45 female	<u>SD6518</u>

**Gira**<sup>1</sup> 19100 Peha<sup>2</sup> 740011

Busch-Jaeger³ 2CKA001753A8055 Jung<sup>4</sup> 569-2NWE / CD569-2NWEWW

- Compatible with all listed keystones
   All listed brand names are owned bij their respective trademark holders









**ALT** CAT6A patch panel



			- Marie
Dscription	Ports	Connector	Туре по.
Shielded	24	RJ45, IDC	<u>PP1020</u>
Keystone panel	24	Suitable for mounting keystones	<u>PP1030</u>
Shielded	Consolidation point	8 x RJ45, 8 x IDC	<u>FA7001</u>

# ALT Multimedia inserts/keystones



	William Co.				
Description	Type no.				
LC Duplex adapter Singlemode/Multimode	<u>TD4101</u>				
HDMI 2.0 A-A female	<u>TD4102</u>				
HDMI 2.0 A-A female angled	<u>TD4103</u>				
USB 3.2 Gen1 A-A female	<u>TD4104</u>				
USB 3.2 Gen2 C-C female	<u>TD4105</u>				
Compatible with ACT hardware, such as PP1030, FA6010/11/12					

#### **ALT** CAT6A Connectors



Description		Type no.
Shielded	Suitable for solid and stranded cable with positioning block, AWG24 (1,2mm)	FA2000
Shielded	Suitable for solid and stranded cable with positioning block, AWG23 (1,5mm)	FA2001



#### **ACT** Tools Description Type no. Krone Punch Tool for LSA plus <u>64172K</u> UTP cable stripper for flat and round cables FHT501 Universal thumb-wheel adjustable cable stripper, for flat and round cables FHT502 Cutters made of steel alloy HT222 Cable tester UTP/STP/FTP/BNC <u>DX220</u> Cable tester UTP/BNC/STP <u>DX240</u> Punch tool for 110 block TD060 Metal crimping pliers to cut, strip cable and crimp connectors TD005 Modular crimping pliers RJ45 for cables with an outer diameter of 7 to 8 mm $\,$ WL2000 Crimping pliers for RJ-10, RJ-11, RJ-12, RJ-45 and DEC connectors **TDCOMB** Mounting kit packed in plastic case HT2681

CAT6A	CAT6A cable									
ALT CAT6A, stranded twisted pair cable										
Colour	Shielding	Jacket	AWG	305m box						
Grey	U/UTP	PVC	24	<u>EP400B</u>						
Red	U/UTP	PVC	24	<u>EP455B</u>						
Blue	U/UTP	PVC	24	<u>EP456B</u>						
Green	U/UTP	PVC	24	<u>EP457B</u>						
Yellow	U/UTP	PVC	24	<u>EP458B</u>						
Black	U/UTP	PVC	24	<u>EP459B</u>						
Grey	S/FTP	PVC	26	<u>FP700B</u>						

<b>ALT</b> CA	T6A U/UTP solid	d twisted pair ins	tallation cable				3
Colour	Shielding	Jacket	AWG	CPR level	DoP	305m reel	500m reel
Grey	U/UTP	PVC	23	Eca	1186892	XS6103	XS6105
Purple	U/UTP	LSZH	23	Eca	1186891	XS6113	XS6115
Grey	F/UTP	PVC	24	Eca	1186889	<u>FS6103</u>	<u>FS6105</u>
Purple	F/UTP	LSZH	24	Eca	1186890	<u>FS6113</u>	<u>FS6115</u>
Grey	F/UTP	PVC	23	B2ca	1175345	XS6120	XS6121





#### Category 6

Categorie 6, ISO Class E with a bandwith of 250 MHz, can be used for 100 Mbps and 1000 Mbps ethernet networks, up to a maximum lenght of 100 meters. 10 Gigabit ethernet can be used for a maximum length of 55 meters. Due to alien crosstalk, the maximum length is 37 meters when cables are bundled. Besides ethernet, these cables are also suitable for other protocols, such as Profinet, ATM, Token Ring and RS-232 up to a distance of 100 meters.













# CAT6 patch cables

# ALT CAT6 U/UTP PVC patch cables, AWG24 CU, 50µ gold-plated contacts

CATO 0/017 FVC patch cables, AVV024 CO, 50µ gold-plated contacts													
Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m
Ivory	<u>IB8452</u>	<u>IB8400</u>	<u>IB8401</u>	<u>IB8451</u>	<u>IB8402</u>	<u>IB8403</u>	<u>IB8405</u>	<u>IB8407</u>	<u>IB8410</u>	<u>IB8415</u>	<u>IB8420</u>	<u>IB8425</u>	<u>IB8430</u>
Grey	<u>IB8052</u>	<u>IB8000</u>	<u>IB8001</u>	<u>IB8051</u>	<u>IB8002</u>	<u>IB8003</u>	<u>IB8005</u>	<u>IB8007</u>	<u>IB8010</u>	<u>IB8015</u>	<u>IB8020</u>	IB8025	<u>IB8030</u>
Red	<u>IB8552</u>	<u>IB8500</u>	IB8501	IB8551	<u>IB8502</u>	<u>IB8503</u>	<u>IB8505</u>	<u>IB8507</u>	<u>IB8510</u>	<u>IB8515</u>	<u>IB8520</u>		
Blue	<u>IB8652</u>	<u>IB8600</u>	IB8601	<u>IB8651</u>	<u>IB8602</u>	<u>IB8603</u>	<u>IB8605</u>	<u>IB8607</u>	<u>IB8610</u>	<u>IB8615</u>	<u>IB8620</u>		
Green	<u>IB8752</u>	<u>IB8700</u>	IB8701	IB8751	<u>IB8702</u>	<u>IB8703</u>	<u>IB8705</u>	<u>IB8707</u>	<u>IB8710</u>	IB8715	<u>IB8720</u>		
Yellow	<u>IB8852</u>	<u>IB8800</u>	<u>IB8801</u>	<u>IB8851</u>	<u>IB8802</u>	<u>IB8803</u>	<u>IB8805</u>	<u>IB8807</u>	<u>IB8810</u>	<u>IB8815</u>	<u>IB8820</u>		
Black	<u>IB8952</u>	<u>IB8900</u>	<u>IB8901</u>	IB8951	IB8902	<u>IB8903</u>	<u>IB8905</u>	<u>IB8907</u>	<u>IB8910</u>	<u>IB8915</u>	<u>IB8920</u>		
Orange		<u>IB1500</u>	<u>IB1501</u>	<u>IB1551</u>	<u>IB1502</u>	<u>IB1503</u>	<u>IB1505</u>	<u>IB1507</u>	<u>IB1510</u>	<u>IB1515</u>	<u>IB1520</u>		
Brown		<u>IB1600</u>	<u>IB1601</u>	<u>IB1651</u>	<u>IB1602</u>	<u>IB1603</u>	<u>IB1605</u>	<u>IB1607</u>	<u>IB1610</u>	<u>IB1615</u>	<u>IB1620</u>		
Purple		<u>IB1700</u>	<u>IB1701</u>	<u>IB1751</u>	<u>IB1702</u>	<u>IB1703</u>	<u>IB1705</u>	<u>IB1707</u>	<u>IB1710</u>	<u>IB1715</u>	<u>IB1720</u>		
Pink		<u>IB1800</u>	<u>IB1801</u>	<u>IB1851</u>	<u>IB1802</u>	<u>IB1803</u>	<u>IB1805</u>	<u>IB1807</u>	<u>IB1810</u>	<u>IB1815</u>	<u>IB1820</u>		
White		<u>IB9400</u>	IB9401	IB9451	IB9402	<u>IB9403</u>	<u>IB9405</u>	<u>IB9407</u>	<u>IB9410</u>	IB9415	IB9420		

# CAT6 U/UTP PVC snagless patch cables, AWG24 CU, 50µ gold-plated contacts

compose paten autos, made a part patent contacts															
Colour	0.25m	0.5m	1m	1.5m	2m	2.5m	3m	4m	5m	7m	10m	15m	20m	25m	30m
Ivory	<u>IS8452</u>	<u>IS8400</u>	<u>IS8401</u>	<u>IS8451</u>	<u>IS8402</u>		<u>IS8403</u>		<u>IS8405</u>	<u>IS8407</u>	<u>IS8410</u>	<u>IS8415</u>	<u>IS8420</u>	<u>IS8425</u>	<u>IS8430</u>
Grey	<u>IS8052</u>	<u>IS8000</u>	<u>IS8001</u>	<u>IS8051</u>	<u>IS8002</u>	<u>IS8053</u>	<u>IS8003</u>	<u>IS8004</u>	<u>IS8005</u>	<u>IS8007</u>	<u>IS8010</u>	<u>IS8015</u>	<u>IS8020</u>	<u>IS8025</u>	<u>IS8030</u>
Red	<u>IS8552</u>	<u>IS8500</u>	<u>IS8501</u>	<u>IS8551</u>	<u>IS8502</u>		<u>IS8503</u>		<u>IS8505</u>	<u>IS8507</u>	<u>IS8510</u>	<u>IS8515</u>	<u>IS8520</u>		
Blue	<u>IS8652</u>	<u>IS8600</u>	<u>IS8601</u>	<u>IS8651</u>	<u>IS8602</u>		<u>IS8603</u>		<u>IS8605</u>	<u>IS8607</u>	<u>IS8610</u>	<u>IS8615</u>	<u>IS8620</u>		
Green	<u>IS8752</u>	<u>IS8700</u>	<u>IS8701</u>	<u>IS8751</u>	<u>IS8702</u>		<u>IS8703</u>		<u>IS8705</u>	<u>IS8707</u>	<u>IS8710</u>	<u>IS8715</u>	<u>IS8720</u>		
Yellow	<u>IS8852</u>	<u>IS8800</u>	<u>IS8801</u>	<u>IS8851</u>	<u>IS8802</u>		<u>IS8803</u>		<u>IS8805</u>	<u>IS8807</u>	<u>IS8810</u>	<u>IS8815</u>	<u>IS8820</u>		
Black	<u>IS8952</u>	<u>IS8900</u>	<u>IS8901</u>	<u>IS8951</u>	<u>IS8902</u>		<u>IS8903</u>		<u>IS8905</u>	<u>IS8907</u>	<u>IS8910</u>	<u>IS8915</u>	<u>IS8920</u>		
Orange		<u>IS1500</u>	<u>IS1501</u>	<u>IS1551</u>	<u>IS1502</u>		<u>IS1503</u>		<u>IS1505</u>	<u>IS1507</u>	<u>IS1510</u>	<u>IS1515</u>	<u>IS1520</u>		
Brown		<u>IS1600</u>	<u>IS1601</u>	<u>IS1651</u>	<u>IS1602</u>		<u>IS1603</u>		<u>IS1605</u>	<u>IS1607</u>	<u>IS1610</u>	<u>IS1615</u>	<u>IS1620</u>		
Purple		<u>IS1700</u>	<u>IS1701</u>	<u>IS1751</u>	<u>IS1702</u>		<u>IS1703</u>		<u>IS1705</u>	<u>IS1707</u>	<u>IS1710</u>	<u>IS1715</u>	<u>IS1720</u>		
Pink		<u>IS1800</u>	<u>IS1801</u>	<u>IS1851</u>	<u>IS1802</u>		<u>IS1803</u>		<u>IS1805</u>	<u>IS1807</u>	<u>IS1810</u>	<u>IS1815</u>	<u>IS1820</u>		

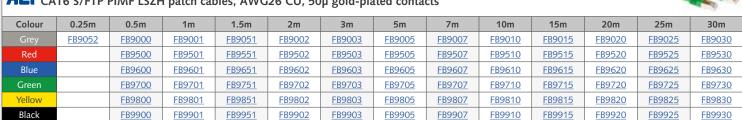
ALT CAT6 U/UTP LSZH patch cables, AWG24 CU, 50µ gold-plated contacts								-
Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m
Grey	<u>IB9000</u>	<u>IB9001</u>	<u>IB9051</u>	<u>IB9002</u>	<u>IB9003</u>	<u>IB9005</u>	<u>IB9007</u>	<u>IB9010</u>
Red	<u>IB9500</u>	<u>IB9501</u>	<u>IB9551</u>	<u>IB9502</u>	<u>IB9503</u>	<u>IB9505</u>	<u>IB9507</u>	<u>IB9510</u>
Blue	<u>IB9600</u>	<u>IB9601</u>	<u>IB9651</u>	<u>IB9602</u>	<u>IB9603</u>	<u>IB9605</u>	<u>IB9607</u>	<u>IB9610</u>
Green	<u>IB9700</u>	<u>IB9701</u>	<u>IB9751</u>	<u>IB9702</u>	<u>IB9703</u>	<u>IB9705</u>	<u>IB9707</u>	<u>IB9710</u>
Yellow	<u>IB9800</u>	<u>IB9801</u>	<u>IB9851</u>	<u>IB9802</u>	<u>IB9803</u>	<u>IB9805</u>	<u>IB9807</u>	<u>IB9810</u>
Black	<u>IB9900</u>	<u>IB9901</u>	<u>IB9951</u>	<u>IB9902</u>	<u>IB9903</u>	<u>IB9905</u>	<u>IB9907</u>	<u>IB9910</u>
White	<u>IB8300</u>	<u>IB8301</u>		<u>IB8302</u>	<u>IB8303</u>	<u>IB8305</u>		

# ALT CAT6 U/UTP PVC cross-over patch cables, AWG24 CU, 50μ gold-plated contacts

Col	our	0.5m	1m	2m	3m	10m	
Cable	Tule	<u>IB8100</u>	<u>IB8101</u>	<u>IB8102</u>	<u>IB8103</u>	<u>IB8110</u>	



# ALT CAT6 S/FTP PIMF LSZH patch cables, AWG26 CU, 50µ gold-plated contacts



# Colour 0.9m 2m 5m 10m 15m Black ΔC4000 ΔC4002 ΔC4005 ΔC4010 ΔC4015

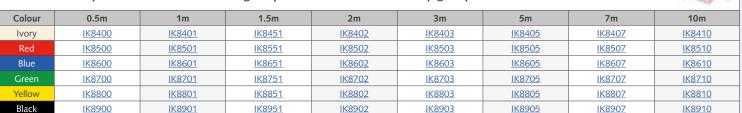
#### **ACT component level patch cables:**

Flexibility in your network is achieved by using consolidation points. Howevers, consolidation points add an extra transition to your cabling. This can affect the reliability of your network. Did you know that an extra transition/cable in the network also adds two additional connectors? (Each cable has two connectors). This results in an additional connector transition in horizontal cabling: the so called 4-connector model. ACT component level patch cables compensate additional transitions in your network thanks to the its high quality. De component level patch cables are applied when using an additional consolidation point in your network.

An ACT component level patch cable should always meet the requirements set in terms of transmission speeds. So these are the highest quality patch cables where extra attention has been paid to, for example, the mounting of the cable in the connector. Everything to ensure that there is as little loss in speed as possible.

In most cases, a consolidation point (CP) is a junction box above a ceiling.

# **ALT** CAT6 component level U/UTP PVC snagless patch cables, AWG24 CU, 50μ gold-plated contacts



#### When to use slimline patch cables?

Slimline patch cables can be used in places where cable space is limited, such as in data centers. The slimline patch cable is 40% thinner than the conventional patch cable. These cables reduce the required cable space needed in racks, resulting in better cable management and space-saving.

#### ACT CAT6 U/UTP LSZH data center slimline patch cables, AWG28 CU, 50µ gold-plated contacts Colour 0.15m 0.25m 0.5m 1m 1.5m 2<sub>m</sub> 3m 5m 7m 10m DC9030 DC9052 DC9000 DC9001 DC9051 DC9002 DC9003 DC9005 DC9007 DC9010 Red DC9530 DC9552 DC9500 DC9501 DC9551 DC9502 DC9503 DC9505 DC9507 DC9510 Blue DC9630 DC9652 DC9600 DC9601 DC9651 DC9602 DC9603 DC9605 DC9607 DC9610 DC9730 DC9752 DC9700 DC9701 DC9751 DC9702 DC9703 DC9705 DC9707 DC9710

# CAT6 hardware range

# **ALT** CAT6 surface mount box/in-wall box unshielded



Description		Connector	Type no.
Unshielded	Surface mount box	1 x RJ45, 1 x IDC	<u>FA6003</u>
Unshielded	Surface mount box	2 x RJ45, 2 x IDC	<u>FA6002</u>
Keystone jack	In-wall box	2 x keystone	<u>FA6010</u>

# **ALT** CAT6 surface mount box shielded



Description		Connector	Type no.
Shielded	Surface mount box	1 x RJ45, 1 x IDC	<u>FA6005</u>
Shielded	Surface mount box	2 x RJ45, 2 x IDC	FA6004

# **ALT** CAT6 Keystone unshielded



Description	Cable attachment	Colour	Type no.
Unshielded punch down	Back	Black	<u>TD6012</u>
Unshielded punch down	Back	White	<u>TD6013</u>
Unshielded punch down	Down	Black	<u>TD6014</u>
Unshielded punch down	Down	White	<u>TD6015</u>
Unshielded toolfree	Back	Black	<u>TD6010</u>
Unshielded toolfree	Back	White	<u>TD6011</u>
Unshielded coupler RJ45	Back	White	<u>SD6009</u>
ACT keystones are compatible with all ACT h	ardware		

# **ALT** CAT6 Keystone shielded



Description	Cable attachment	Colour	Type no.
Shielded punch down	Back	Metal	<u>TD6021</u>
Shielded punch down	Down	Metal	<u>TD6022</u>
Shielded toolfree	Back	Metal	<u>TD6020</u>
Shielded coupler RJ 45	2x RJ45	Metal	<u>SD6019</u>
ACT keystones are compatible with all	ACT hardware		·

# **ALT** Junctionbox and modular RJ-45 coupler CAT6



Description	Connector	Colour	Туре по.
Shielded, Junctionbox CAT6	2x IDC	Metal	<u>SD6020</u>
Unshielded, Junctionbox CAT6	2x IDC	Metal	<u>SD6021</u>
Unshielded, ACT Inline Coupler RJ-45 CAT6	2x RJ45	Metal	<u>SD6008</u>
Shielded, ACT Inline Coupler RJ-45 CAT6	2x RJ45	Metal	<u>SD6018</u>

# **ALT** CAT6 Patch panel



Description	Ports	Connector	Type no.
Unshielded	24	RJ45, IDC	<u>PP1010</u>
Unshielded	24 with cable management bar	RJ45, IDC	<u>PP1011</u>
Shielded	24	RJ45, IDC	<u>PP1012</u>
Unshielded	24 Ports 45°	RJ45, IDC	<u>PP1013</u>
Keystone panel	24	Suitable for mounting keystones	<u>PP1030</u>
Unshielded	Consolidation point	8 x RJ45, 8 x IDC	<u>FA6000</u>
Shielded	Consolidation point	8 x RJ45, 8 x IDC	<u>FA6001</u>

# **ALT** Multimedia inserts/keystones



Description	Type no.
LC Duplex adapter Singlemode/Multimode	<u>TD4101</u>
HDMI 2.0 A-A female	<u>TD4102</u>
HDMI 2.0 A-A female angled	<u>TD4103</u>
USB 3.2 Gen1 A-A female	<u>TD4104</u>
USB 3.2 Gen2 C-C female	<u>TD4105</u>
Compatible with ACT hardware such as PP1030, FA6010/11/12	



# **ALT** CAT6 Connectors



Description		Type no.
Unshielded	Suitable for solid and stranded cable with positioning block, AWG24-AWG26	<u>TD168M</u>
Unshielded	Suitable for solid and stranded cable with positioning block, AWG23-AWG26, Retail packed	<u>AC4115</u>
Shielded	Suitable for solid and stranded cable with positioning block, AWG26-AWG24	<u>TD168A</u>
Shielded easyconnect	Suitable for solid and stranded cable with positioning block, AWG23-AWG26	<u>TD168B</u>
Shielded easyconnect	Suitable for solid and stranded cable with positioning block, AWG23-AWG26	<u>TD168C</u>

# **ALT** Tools



Description	Type no.
Krone Punch Tool for LSA plus	<u>64172K</u>
UTP cable stripper for flat and round cables	<u>FHT501</u>
Universal thumb-wheel adjustable cable stripper, for flat and round cables	<u>FHT502</u>
Cutters made of steel alloy	<u>HT222</u>
Cable tester UTP/STP/FTP/BNC	DX220
Cable tester UTP/BNC/STP	<u>DX240</u>
Punch tool for 110 block	<u>TD060</u>
Metal crimping pliers to cut, strip cable and crimp connectors	<u>TD005</u>
Modular crimping pliers RJ45 for cables with an outer diameter of 7 to 8 mm	<u>WL2000</u>
Modular crimping pliers RJ45 for easyconnect connectors	<u>TD168T</u>
Crimping pliers RJ-10, RJ-11, RJ-12, RJ-45 and DEC connectors	TDCOMB
Mounting kit packed in plastic case	<u>HT2681</u>

# **ALT** CAT6 UTP finishing boots RJ45



Colour	Packaging	5.5mm	6.5mm	7.0mm	8.0mm
Black	25x	<u>TT4509</u>	<u>TT4519</u>	<u>FA2002</u>	<u>FA2009</u>
Grey	25x	<u>TT4510</u>	<u>TT4520</u>	<u>FA2003</u>	<u>FA2010</u>
Grey	10x	AC4120 Retail packed			
White	25x	<u>TT4515</u>	<u>TT4525</u>	<u>FA2008</u>	
Red	25x	<u>TT4511</u>	<u>TT4521</u>	<u>FA2004</u>	<u>FA2011</u>
Blue	25x	<u>TT4512</u>	<u>TT4522</u>	<u>FA2005</u>	<u>FA2012</u>
Green	25x	<u>TT4513</u>	<u>TT4523</u>	<u>FA2006</u>	<u>FA2013</u>
Yellow	25x	<u>TT4514</u>	<u>TT4524</u>	<u>FA2007</u>	<u>FA2014</u>
Brown	25x	<u>TT4526</u>			<u>FA2015</u>

# CAT6 Cable

# **ALT** CAT6, stranded twisted pair cable



Colour	Shielding	Jacket	AWG	100m	305m box	500m reel
Ivory	U/UTP	PVC	24	<u>EP840H</u>	<u>EP384B</u>	<u>EP845A</u>
Grey	U/UTP	PVC	24	<u>EP800H</u>	<u>EP380B</u>	
Red	U/UTP	PVC	24	<u>EP850H</u>	<u>EP385B</u>	
Blue	U/UTP	PVC	24	<u>EP860H</u>	<u>EP386B</u>	
Green	U/UTP	PVC	24	<u>EP870H</u>	<u>EP387B</u>	
Yellow	U/UTP	PVC	24	<u>EP880H</u>	<u>EP388B</u>	
Black	U/UTP	PVC	24	<u>EP890H</u>	<u>EP389B</u>	
Grey	S/FTP	PVC	26			<u>FP600B</u>
Red	S/FTP	PVC	26			<u>FP655B</u>
Blue	S/FTP	PVC	26			<u>FP656B</u>
Green	S/FTP	PVC	26			<u>FP657B</u>
Yellow	S/FTP	PVC	26			<u>FP658B</u>
Black	S/FTP	PVC	26			<u>FP659B</u>

# **ALT** CAT6 Solid twisted pair installation cable



Colour	Shielding	Jacket	AWG	CPR level	DoP	100m reel	305m box	305m reel	500m reel
Grey	U/UTP	PVC	24	Eca	1186887	<u>XS100H</u>	XS305B		
Grey	F/UTP	PVC	24	Eca	1186889			<u>FS6003</u>	<u>FS6005</u>
Purple	F/UTP	LSZH	24	Eca	1186890			<u>FS6013</u>	FS6015
Grey	U/UTP	PVC	24	B2ca	1175349		XS6001		XS6002
Purple	U/UTP	LSZH	24	Dca	1176113		XS6003		



#### Category 5E

Category 5E, ISO Class D supports Gigabit networks; this category cabling can be used for 100 Mbps en 1000 Mbps ethernet networks. Besides ethernet, these cables are suitable for other protocols such as Profinet, ATM, Token Ring en RS-232 tot een afstand van 100 meter.













#### **CAT5E** - patch cables

#### ALT CATSE U/UTP PVC patch cables, AWG24 CU, 50µ gold-plated contacts

Colour	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m
Ivory	<u>IB6452</u>	<u>IB6400</u>	<u>IB6401</u>	<u>IB6451</u>	<u>IB6402</u>	<u>IB6403</u>	<u>IB6405</u>	<u>IB6407</u>	<u>IB6410</u>	<u>IB6415</u>	<u>IB6420</u>	<u>IB6425</u>	<u>IB6430</u>
Grey	<u>IB6052</u>	<u>IB6000</u>	<u>IB6001</u>	<u>IB6051</u>	<u>IB6002</u>	<u>IB6003</u>	<u>IB6005</u>	<u>IB6007</u>	<u>IB6010</u>	<u>IB6015</u>	<u>IB6020</u>	<u>IB6025</u>	<u>IB6030</u>
Red		<u>IB5500</u>	<u>IB5501</u>	<u>IB5551</u>	<u>IB5502</u>	<u>IB5503</u>	<u>IB5505</u>	<u>IB5507</u>	<u>IB5510</u>	<u>IB5515</u>	<u>IB5520</u>		
Blue		<u>IB5600</u>	<u>IB5601</u>	<u>IB5651</u>	<u>IB5602</u>	<u>IB5603</u>	<u>IB5605</u>	IB5607	<u>IB5610</u>	IB5615	IB5620		
Green		<u>IB5700</u>	<u>IB5701</u>	<u>IB5751</u>	<u>IB5702</u>	<u>IB5703</u>	<u>IB5705</u>	<u>IB5707</u>	<u>IB5710</u>	<u>IB5715</u>	<u>IB5720</u>		
Yellow		<u>IB5800</u>	<u>IB5801</u>	<u>IB5851</u>	<u>IB5802</u>	<u>IB5803</u>	<u>IB5805</u>	<u>IB5807</u>	<u>IB5810</u>	<u>IB5815</u>	<u>IB5820</u>		
Black		<u>IB5900</u>	<u>IB5901</u>	<u>IB5951</u>	<u>IB5902</u>	<u>IB5903</u>	<u>IB5905</u>	<u>IB5907</u>	<u>IB5910</u>	<u>IB5915</u>	<u>IB5920</u>		
Orange		<u>IB4500</u>	<u>IB4501</u>	<u>IB4551</u>	<u>IB4502</u>	<u>IB4503</u>	<u>IB4505</u>	<u>IB4507</u>	<u>IB4510</u>	<u>IB4515</u>	<u>IB4520</u>		
Brown		<u>IB4600</u>	<u>IB4601</u>	<u>IB4651</u>	<u>IB4602</u>	<u>IB4603</u>	<u>IB4605</u>	<u>IB4607</u>	<u>IB4610</u>	<u>IB4615</u>	<u>IB4620</u>		
Purple		<u>IB4700</u>	<u>IB4701</u>	<u>IB4751</u>	<u>IB4702</u>	<u>IB4703</u>	<u>IB4705</u>	<u>IB4707</u>	<u>IB4710</u>	<u>IB4715</u>	<u>IB4720</u>		
Pink		<u>IB4800</u>	<u>IB4801</u>	<u>IB4851</u>	<u>IB4802</u>	<u>IB4803</u>	<u>IB4805</u>	<u>IB4807</u>	<u>IB4810</u>	<u>IB4815</u>	<u>IB4820</u>		
White		<u>IB5400</u>	<u>IB5401</u>	<u>IB5451</u>	<u>IB5402</u>	<u>IB5403</u>	<u>IB5405</u>	<u>IB5407</u>	<u>IB5410</u>	<u>IB5415</u>	<u>IB5420</u>		

# ALT CAT5E U/UTP LSZH patch cables, AWG24 CU, 50µ gold-plated contacts

Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m
Grey	<u>IB2000</u>	<u>IB2001</u>	<u>IB2051</u>	<u>IB2002</u>	<u>IB2003</u>	<u>IB2005</u>	<u>IB2007</u>	<u>IB2010</u>	<u>IB2015</u>	<u>IB2020</u>

# **ALT** CAT5E U/UTP PVC cross-over patch cables, AWG24 CU, gold-plated contacts

Colour	0.5m	1m	1.5m	2m	3m	5m	10m
Black	IB6100	IB6101	IB6151	IB6102	IB6103	IB6105	IB6110

# **ALT** CAT5E F/UTP PVC patch cables, AWG26 CU, 50μ gold-plated contacts

Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m
lvory	<u>IB7200</u>	<u>IB7201</u>	<u>IB7251</u>	<u>IB7202</u>	<u>IB7203</u>	<u>IB7205</u>	<u>IB7207</u>	<u>IB7210</u>	<u>IB7215</u>	<u>IB7220</u>
Grey	IB7100	IB7101	IB7151	IB7102	IB7103	IB7105	IB7107	IB7110	IB7115	IB7120

# **ALT** CAT5E F/UTP LSZH patch cables, AWG26 CU, 50μ gold-plated contacts

Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	
Grey	<u>FB2000</u>	<u>FB2001</u>	FB2051	<u>FB2002</u>	FB2003	<u>FB2005</u>	FB2007	FB2010	<u>FB2015</u>	FB2020	
Red	<u>IB7500</u>	<u>IB7501</u>	<u>IB7551</u>	<u>IB7502</u>	<u>IB7503</u>	<u>IB7505</u>	<u>IB7507</u>	<u>IB7510</u>	<u>IB7515</u>	<u>IB7520</u>	
Blue	<u>IB7600</u>	<u>IB7601</u>	<u>IB7651</u>	<u>IB7602</u>	<u>IB7603</u>	<u>IB7605</u>	<u>IB7607</u>	<u>IB7610</u>	<u>IB7615</u>	<u>IB7620</u>	
Green	<u>IB7700</u>	<u>IB7701</u>	<u>IB7751</u>	<u>IB7702</u>	<u>IB7703</u>	<u>IB7705</u>	<u>IB7707</u>	<u>IB7710</u>	<u>IB7715</u>	<u>IB7720</u>	
Yellow	<u>IB7800</u>	<u>IB7801</u>	<u>IB7851</u>	<u>IB7802</u>	<u>IB7803</u>	<u>IB7805</u>	<u>IB7807</u>	<u>IB7810</u>	<u>IB7815</u>	<u>IB7820</u>	
Black	<u>IB7900</u>	<u>IB7901</u>	<u>IB7951</u>	<u>IB7902</u>	<u>IB7903</u>	<u>IB7905</u>	<u>IB7907</u>	<u>IB7910</u>	<u>IB7915</u>	<u>IB7920</u>	

# ALT CAT5E F/UTP cross-over LSZH patch cables, AWG26 CU, 50μ gold-plated

Colour	0.5m	1m	1.5m	3m	5m	10m
Cable Boot	<u>IB5100</u>	<u>IB5101</u>	<u>IB5151</u>	<u>IB5103</u>	<u>IB5105</u>	<u>IB5110</u>



# **ALT** CAT5E SF/UTP PVC patch cables, AWG26 CU, 50μ gold-plated contacts, not moulded boots



Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m
Ivory	<u>IB7000</u>	<u>IB7001</u>	<u>IB7051</u>	<u>IB7002</u>	<u>IB7003</u>	<u>IB7005</u>	<u>IB7007</u>	<u>IB7010</u>	<u>IB7015</u>	<u>IB7020</u>

#### ACT component level patch cables

Flexibility in your network is achieved by using consolidation points. Howevers, consolidation points add an extra transition to your cabling. This can affect the reliability of your network. Did you know that an extra transition/cable in the network also adds two additional connectors? (Each cable has two connectors). This results in an additional connector transition in horizontal cabling: the so called 4-connector model. ACT component level patch cables compensate additional transitions in your network thanks to the its high quality. De component level patch cables are applied when using an additional consolidation point in your network.

An ACT component level patch cable should always meet the requirements set in terms of transmission speeds.

So these are the highest quality patch cables where extra attention has been paid to, for example, the mounting of the cable in the connector. Everything to ensure that there is as little loss in speed as possible.

In most cases, a consolidation point (CP) is a junction box above a ceiling.

# ALT CAT5E component level U/UTP PVC snagless patch cable, AWG24 CU, 50μ gold-plated contacts



Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m
Ivory	<u>IK5400</u>	<u>IK5401</u>	<u>IK5451</u>	<u>IK5402</u>	<u>IK5403</u>	<u>IK5405</u>	<u>IK5407</u>	<u>IK5410</u>
Red	<u>IK5500</u>	<u>IK5501</u>	<u>IK5551</u>	<u>IK5502</u>	<u>IK5503</u>	<u>IK5505</u>	<u>IK5507</u>	<u>IK5510</u>
Blue	<u>IK5600</u>	<u>IK5601</u>	<u>IK5651</u>	<u>IK5602</u>	<u>IK5603</u>	<u>IK5605</u>	<u>IK5607</u>	<u>IK5610</u>
Green	<u>IK5700</u>	<u>IK5701</u>	<u>IK5751</u>	<u>IK5702</u>	<u>IK5703</u>	<u>IK5705</u>	<u>IK5707</u>	<u>IK5710</u>
Yellow	<u>IK5800</u>	<u>IK5801</u>	<u>IK5851</u>	<u>IK5802</u>	<u>IK5803</u>	<u>IK5805</u>	<u>IK5807</u>	<u>IK5810</u>
Black	<u>IK5900</u>	<u>IK5901</u>	<u>IK5951</u>	<u>IK5902</u>	<u>IK5903</u>	<u>IK5905</u>	<u>IK5907</u>	<u>IK5910</u>

#### **CAT5E** hardware range

#### ALT In-wall box unshielded CAT5E



Description		Connector	Туре по.
Unshielded	In-wall box	1 x RJ45, 1 x IDC	<u>FA5003</u>
Unshielded	In-wall box	2 x RJ45, 2 x IDC	<u>FA5002</u>
Keystone jack	In-wall box	2 ports for keystone	<u>FA6010</u>

#### ALT Mounting box shielded CAT5E



Description		Connector	Туре по.
Shielded	Mounting box	1 x RJ45, 1 x IDC	<u>FA5005</u>

# ACT Keystone mounting box CAT5E



Description		Connector	Туре по.
Keystone mounting box	Suitable for ACT keystone jacks	1 port for keystone	<u>FA6011</u>
Keystone mounting box	Suitable for ACT keystone jacks	2 ports for keystone	FA6012

# ALT Keystone unshielded CAT5E



Description	Cable attachment	Colour	Type no.		
Unshielded punch down	Back	Black	<u>TD5012</u>		
Unshielded punch down	Down	Black	<u>TD5014</u>		
Unshielded punch down	Down	White	<u>TD5015</u>		
Unshielded toolfree	Back	Black	<u>TD5010</u>		
Unshielded toolfree	Back	White	<u>TD5011</u>		
Shielded coupler RJ45	Back	White	<u>SD5009</u>		
ACT keystones are compatible with	ACT keystones are compatible with all ACT hardware				

# CAT5E - hardware range

# **ALT** Keystone shielded CAT5E



Description	Cable attachment	Colour	Type no.
Shielded punch down	Back	Metal	<u>TD5021</u>
Shielded punch down	Down	Metal	<u>TD5022</u>
Shielded toolfree	Back	Metal	<u>TD5020</u>
Shielded coupler RJ45	Back	Metal	<u>SD5019</u>
ACT keystones are compatible with all ACT hardware			

**Gira**<sup>1</sup> 19100 Peha<sup>2</sup> 740011 Busch-Jaeger<sup>3</sup> 2CKA001753A8055 Jung<sup>4</sup> 569-2NWE / CD569-2NWEWW

Compatible with all listed keystones.
 All listed brandnames are owned by their respective trademark holders.









ACT	CAT5E	Datch	nanol
/161	CAISE	Paten	panei





Description	Ports		Type no.
Unshielded	24 ports, angled	RJ45, IDC	<u>P24AK1</u>
Unshielded	24 ports	RJ45, IDC	<u>PP1001</u>
Shielded	24 ports	RJ45, IDC	PP1002
Keystone	24 ports	Suitable for keystones	PP1030
Keystone	24 ports, angled	Suitable for keystones	<u>PP1033</u>
Unshielded	Consolidation point	8 x RJ45, 8 x IDC	<u>FA5000</u>
Shielded	Consolidation point	8 x RJ45, 8 x IDC	<u>FA5001</u>

ALT Multimedia inserts/keystones	
Description	Type no.
LC Duplex adapter Singlemode/Multimode	<u>TD4101</u>
HDMI 2.0 A-A female	<u>TD4102</u>
HDMI 2.0 A-A female angled	<u>TD4103</u>
USB 3.2 Gen1 A-A female	<u>TD4104</u>
USB 3.2 Gen2 C-C female	<u>TD4105</u>
Compatible with ACT hardware such as the PP1030, FA6010/11/12	

<b>ALT</b> Junctionbox and modular R	111		
Description	Description	Connector	Type no.
Unshielded	Junctionbox CAT5E	2x IDC	<u>SD5021</u>
Unshielded	ACT Inline Coupler RJ-45 CAT5E	2x RJ45	<u>SD5008</u>
Shielded	ACT Inline Coupler RJ-45 CAT5E	2x RJ45	<u>SD5018</u>



# **ALT** CAT5E Connectors



Description		Type no.
Unshielded	Suitable for stranded and solid cable with positioning block, AWG26-AWG24	<u>TD1118</u>
Unshielded	Modular connector for round stranded CAT5E cables, retail packed	<u>AC4110</u>
Shielded	Suitable for stranded and solid cable with positioning block, AWG26-AWG24	<u>TD1138</u>

# **ACT** Tools



	and and
Description	Туре по.
Krone Punch Tool for LSA plus	<u>64172K</u>
UTP cable stripper for flat and round cables	<u>FHT501</u>
Universal thumb-wheel adjustable cable stripper, for flat and round cables	<u>FHT502</u>
Cutters made of steel alloy	<u>HT222</u>
Cable tester UTP/STP/FTP/BNC	<u>DX220</u>
Cable tester UTP/BNC/STP	<u>DX240</u>
Punch tool for 110 block	<u>TD060</u>
Metal crimping pliers to cut, strip cable and crimp connectors	<u>TD005</u>
Modular crimping pliers RJ45 for cables with an outer diameter of 7 to 8 mm	<u>WL2000</u>
Crimping pliers for RJ-10, RJ-11, RJ-12, RJ-45 and DEC connectors	<u>TDCOMB</u>
Mounting kit packed in plastic case	<u>HT2681</u>

# CAT5E - Cable

# **ALT** CAT5E, stranded twisted pair cable



Colour	Shielding	Jacket	AWG	100m	305m box	500m reel
Ivory	U/UTP	PVC	24	<u>EP100H</u>	<u>EP305B</u>	<u>EP500A</u>
Grey	U/UTP	PVC	24	<u>EP600H</u>	<u>EP360B</u>	
Red	U/UTP	PVC	24	<u>EP550H</u>	<u>EP355B</u>	
Blue	U/UTP	PVC	24	<u>EP560H</u>	<u>EP356B</u>	
Green	U/UTP	PVC	24	<u>EP570H</u>	<u>EP357B</u>	
Yellow	U/UTP	PVC	24	<u>EP580H</u>	<u>EP358B</u>	
Black	U/UTP	PVC	24	<u>EP590H</u>	<u>EP359B</u>	
Ivory	F/UTP	LSZH	26	<u>FP100H</u>	<u>FP305B</u>	<u>FP500A</u>
Grey	F/UTP	LSZH	26			<u>FP7450</u>
Red	F/UTP	LSZH	26	<u>FP750H</u>		<u>FP7550</u>
Blue	F/UTP	LSZH	26	<u>FP760H</u>		<u>FP7650</u>
Green	F/UTP	LSZH	26	<u>FP770H</u>		<u>FP7750</u>
Yellow	F/UTP	LSZH	26	<u>FP780H</u>		<u>FP7850</u>
Black	F/UTP	LSZH	26	<u>FP790H</u>		<u>FP7950</u>
Grey	SF/UTP	LSZH	26			<u>FP510A</u>

# **ALT** CAT5E Solid twisted pair installation cable



Colour	Shielding	Jacket	AWG	CPR level	DoP	100m box	305m box	500m reel
Grey	U/UTP	PVC	24	Eca	1186884	<u>ES100H</u>	<u>ES305B</u>	<u>ES500A</u>
Blue	U/UTP	PVC	24	Eca	1186884		<u>ES356B</u>	
Grey	F/UTP	PVC	26	Eca	1186885	<u>FS100H</u>		

#### Choose cable management to:

- 1. Organise and guide bundled cables
- 2. Separate cables per application
- 3. Identify individual ports

#### Tips cable management

Below we will explain how these three goals can be reached and we will give you tips how to apply this in real life business applications. Cabling is a broad term, in this article we focus on network cabling (like UTP cables and CAT5E/CAT6/CAT6A cables) fiber optic cables and power cables.

#### Organise and guide cables in bundles

Network cables or fiber-optic cables from a switch or server are bundled if they have to bridge a distance of more than several meters. Cable bundling is used in 19" cabinets in server rooms within an office network or data center.

Cables in a server cabinet or networking cabinet are bundled by cable management panels and cable ties (also called zip tie and zap strap).



Shunting panels, zip tie/zap trap

#### Seperate cables per application

Within a network you will find cables suitable for different applications. In a data network this can be telephony, data and backup cabling

In the power supply different cabling is used for the main data source and the backup supply which typically come from the UPS. To make a clear distinction between these applications it's best to use coloured cabling. By using coloured cables it is possible to distinguish different applications at once.

#### Identifying specific ports

In a data network you want to know which port of the switch is connected to which desk. This can be achieved by labeling individual cables and record what cable is used by what connection. Most common is usage of alfanumerical series with the same label on both sides.

There are different solutions for this:

#### Pre-printed labels

Labels with a pre-printed text are easy in use. We offer an assortment with pre-printed labels with letters, numbers and colour.

#### Order cables including labels

Intronics you can have your cables labeled. This is possible for nearly all of our cabling like network cables (CAT5E/CAT6/CAT6A), fiber optic cables, power cables etc. Advantages of labeled cables:

- No investment in printers or other equipment.
- Freedom to specify what should be labeled and which place on the cable.
- Saving on labour time and costs because the cables are already labeled.

#### Print and attach your own labels

For printing your own labeling we offer a professional printer of Phoenix.



Labeling cables



# Cable management



# **ALT** Tie wraps transparent

Colour	Description	Packaging	Width	Length	Type no.
Transparent	Tie wraps	Bag 100 pcs	2.5 mm	100 mm	<u>CT1010</u>
Transparent	Tie wraps	Bag 100 pcs	3.6 mm	150 mm	<u>CT1030</u>
Transparent	Tie wraps	Bag 100 pcs	3.6 mm	203 mm	<u>CT1040</u>
Transparent	Tie wraps	Bag 100 pcs	4.6 mm	203 mm	<u>CT1050</u>
Transparent	Tie wraps	Bag 100 pcs	4.8 mm	280 mm	<u>CT1060</u>
Transparent	Tie wraps	Bag 100 pcs	4.8 mm	385 mm	<u>CT1070</u>
Transparent	Tie wraps	Bag 100 pcs	7.6 mm	38 mm	<u>CT1080</u>

# ALT Tie wraps Black

	W
-	

Colour	Description	Packaging	Width	Length	Type no.
Black	Tie wraps	Bag 100 pcs	2.5 mm	100 mm	<u>CT1015</u>
Black	Tie wraps	Bag 100 pcs	3.6 mm	150 mm	<u>CT1035</u>
Black	Tie wraps	Bag 100 pcs	3.6 mm	203 mm	<u>CT1045</u>
Black	Tie wraps	Bag 100 pcs	4.6 mm	203 mm	<u>CT1055</u>
Black	Tie wraps	Bag 100 pcs	4.8 mm	385 mm	<u>CT1075</u>
Black	Tie wraps	Bag 100 pcs	8 mm	450 mm	<u>CT1090</u>

# **ALT** Tie wraps with label, transparent



Colour	Description	Packaging	Width	Length	Type no.
Transparent	Tie wraps with label	Bag 100 pcs	2.5 mm	100 mm	CT1300
Transparent	Tie wraps with label	Bag 100 pcs	2.5 mm	200 mm	CT1310

# **ALT** Cable tie mount adhesive, transparent



Colour	Description	Packaging	Width	Length	Туре по.
Transparent	Cable tie mount adhesive	Bag 100 pcs	4,6 mm	-	<u>CT1260</u>
Transparent	Cable tie mount adhesive	Bag 100 pcs	5,5 mm	-	<u>CT1270</u>

# **ALT** Cable tie mount screw, transparent



Colour	Description	Packaging	Format	Type no.
Transparent	Cable tie mount screw	Zak 100 stuks	16x23x9 mm	CT1200

# **ALT** Tie wraps gun



Colour	Description	Format	Type no.
Transparent	Tie wraps gun, Economy	For cables 2.5 - 5.0 mm	<u>CT3000</u>
Transparent	Tie wraps gun Professional	For cables 2.5 - 5.0 mm	CT3010

# **ALT** Tie wraps



Colour	Description	Packaging	Width	Length	Type no.
Black	Tie wraps	Bag 20 pieces	12 mm	125 mm	<u>CT4003</u>
Black	Tie wraps	Bag 20 pieces	12 mm	150 mm	<u>CT4004</u>
Black	Tie wraps	Bag 20 pieces	12 mm	180 mm	<u>CT4005</u>
Black	Tie wraps	Bag 20 pieces	16 mm	210 mm	<u>CT4006</u>
Black	Tie wraps	Bag 20 pieces	16 mm	240 mm	<u>CT4007</u>
Black	Tie wraps	Bag 20 pieces	16 mm	310 mm	CT4008

ALT Cable mana	gement panels	PARTY IN LINE OF
Colour	Description	Type no.
Black	Cable pass-through with brush 1U	<u>FA2070</u>
Black	Cable pass-through with brush 1U incl. bar	<u>FA2071</u>
Black	DUCT Cable management panel with cover 1U	<u>FA2072</u>
Black	DUCT Cable management panel with cover 2 U	<u>FA2073</u>
Black	Cable management panel 5 plastic rings 1U	<u>FA2074</u>
Black	Cable management panel 5 metal rings 1U	<u>FA2075</u>
Black	Shunting eye horizontal / vertical 1U	<u>FA2076</u>
Black	Cable pass-through with brush and 5 plastic rings 1U	<u>FA2077</u>

#### **ALT** Hook & loop cable tie Colour Description Width Packaging Length Type no. Black Hook & loop cable tie Reel 10 meter 15 mm 10 m CT4009 10 m Black Hook & loop cable tie Reel 10 meter 20 mm CT4010 Reel 25 meter 25 m Black Hook & loop cable tie 12 mm (extra strong) CT4041 Black Reel 25 meter Hook & loop cable tie 20 mm (extra strong) 25 m CT4043 Reel 25 meter Black Hook & loop cable tie <u>KL10</u> 10 mm 25 m Reel 25 meter Black Hook & loop cable tie 12 mm 25 m KL12 Black Reel 25 meter Hook & loop cable tie 16 mm 25 m KL16 Black Reel 25 meter Hook & loop cable tie 20 mm 25 m KL20 Black Reel 25 meter Hook & loop cable tie 25 mm 25 m KL25

<b>ALT</b> Twist Tie wrap,	resealable			3
Colour	Description	Packaging	Diameter	Type no.
Transparent	Twist tie wrap	Bag 100 pcs	11 mm	<u>CT4014</u>
Transparent	Twist tie wrap	Bag 100 pcs	22 mm	<u>CT4015</u>
Transparent	Twist tie wrap	Bag 100 pcs	28 mm	<u>CT4016</u>

Spiral cord on ree	el			
Colour	Description	Width	Length	Type no.
Black	Spiral cord	15 mm	50 m	CT4029
Black	Spiral cord	20 mm	30 m	<u>CT4030</u>
Black	Spiral cord	25 mm	20 m	CT4031

<b>ACT</b> Tools for spiral	cord		-
Colour	Description	Width	Type no.
Orange	Tools for spiral cord	15 mm	<u>CT4032</u>
Orange	Tools for spiral cord	20 mm	<u>CT4033</u>
Orange	Tools for spiral cord	25 mm	<u>CT4034</u>

<b>ALT</b> Markers					
Colour	De	escription	Breedte	Lengte	Type no.
Coloured	Cable markers	Set of 10x10 cabel markers (no. 0 tot 9)	-	-	<u>FA1500</u>
Coloured	Cable markers 0~9	one set of the numbers 0~9	5.6 mm	33 mm	<u>CT4011</u>
Coloured	Cable markers self-adhesive A~Z,/,+,-,0~15	Cable markers A~Z,/,+,-,0~15	5.6 mm	33 mm	<u>CT4012</u>





#### What is a fiber-optic cable?

To transport signals reliably over long distances, light signals are sent through glass fibers in fiber-optic connections. A glass fiber (125 microns or 1/8th of a millimetre thin) consists of a core surrounded by cladding. The core consists of clear material through which the light signal passes. The cladding surrounds the core and is inwardly reflective so that the light signal remains in the core. Fiber optic cables are used in data centers, server rooms and in the backbones in a LAN, among others. Optical fiber is also used in video surveillance and extension in, for example, industry or events. The light in the fiber is not subject to Electro Magnetic Interference (EMI) and therefore fiber is insensitive to electrical interference.

Fiber-optics are commonly used:

- At long distances
- At high bandwidths
- In interference-sensitive environments

An additional advantage is that fiber, especially singlemode, is well prepared for the future.

#### Different kinds of fibers: singlemode and multimode

There are different types of fibers. In the telecom and ICT market, two types are used: singlemode and multimode fibers.

#### Multimode fiber for relatively short distances

Multimode fibers are used for relatively short distances and have an LED or VCSEL as the light source. These fibers are limited in length and speed. Several generations of multimode fibers are available. The most common are OM3/OM4 and the most recent OM5. Which variant is best to use depends on the application and whether you are going to extend an existing network. Multimode is a cost-efficient solution at high speeds (40-400G) on short distances.

#### Singlemode fiber for long distances

Singlemode fibers are used for longer distances and the bandwidth is almost infinite The light source of a singlemode fiber is a laser, which makes it more powerful and accurate, but also more expensive than an LED or VCSEL. In recent years, however, the price difference has narrowed, making singlemode increasingly used for short distances as well.

High bandwidth is achieved by multiplexing. Multimode and singlemode fibers are often used for backbones in a LAN, or as an alternative to CAT6/6A data cabling.

Which solution, singlemode or multimode, is best for you depends on several factors. If you have any questions about this, please contact our our sales team.

#### Fiber optic connectors

A fiber optic connector is crucial for a properly functioning fiber optic cable. ACT fiber connectors are made of high-quality materials, such as ziconium ceramic ferrules, and offer excellent performance. Over 40 different types of fiber connectors are available. Due to the high precision and polishing process, you cannot easily assemble the fiber connectors on site. Welding is done by specialists in the field, with expensive equipment. This is why prefab cables are often opted for; these are installation cables that already have the right length and are fitted with connectors. ACT prefab cables come with an individual test report as standard; each fiber is tested separately.

In practice, the following connectors are most commonly used:



ST connector: Has a bayonet connection. This connector is not recommended on new installations, but is present on existing equipment.



SC connector: This connector is square in shape and can be polished at different angles.



LC connector: Similar to an SC connector, but half the size and therefore very compact. Nowadays, the LC connector is the standard connection on transceivers (SFP modules) and patch panels.



MPO/MTP: This connector can connect 12+ fibers and is used for 40G / 100G connections. Particularly applied in server rooms and data centers.

Fiber option	Fiber optic type and distance:											
Туре	OM1	OM2	OS2									
		Multi	mode			Singlemode						
	62,5/125µm	5μm 50/125μm										
Structure												
Distance	2000 m	550 m	300 m	400 m	440 - 150 m	10 Km						
Used for	10/100 Mb/s	1 Gb/s	10 Gb/s	10 Gb/s	40-400 Gb/s	*						

 The maximum length is related to the most suitable speed and depends on the transceiver.

#### Different kinds of patch cables

Use ACT fiber-optic patch cables to connect active equipment. Fiber optic patch cables are usually used for patching in 19" racks. In some cases, you will also find fiber-optic patch cables in cable trays to bridge longer distances. Fiber optic patch cables are also used to connect to fixed cabling. Fixed cabling (also called installation cabling) can be cabling inside a building but also cabling outside, for example a Fiber to the Home network.



Duplex patch cable: This is the most commonly used patch cable. Two cables with one fiber each are connected to each other. Available in both multimode and singlemode versions with different connectors such as LC, SC and ST.



Simplex patch cable: With these cables, communication takes place over 1 optical fiber (fiber) and is often used in fiber to the home. Only available in singlemode.



Polarity Twist™ patch cable: a unique solution from ACT for easily and quickly adjusting the polarity of a fiber-optic patch cable.



MTP/MPO patch cable: These cables are mainly used in high-bandwidth environments with relatively short distances. In one cable, 12 fibers are used. If the length exceeds 20 meters, we recommend using trunk cables.



Armoured patch cable: When patch cables are exposed to more extreme conditions such as in industrial environments and offshore, armoured patch cables provide better protection.



IP67 patch cable: These cables are enclosed to make them resistant to water and dust.

#### Prefab cables: ready-made fiberglass installation cables available from stock

ACT prefab cables (also called Pre-terminated) are ready-to-use fiber optic installation cables with connectors attached. Prefabricated fiber-optic cables are used to connect different rooms, floors or buildings.

The advantage of using prefabs is that there is no need to invest in tools or test equipment, as the connectors are pre-terminated and each prefab cable is individually tested and provided with a test report after production.

#### Our range of prefabricated cables consists of 3 lines:

- Indoor/outdoor in 4/8/12 fibers in OM3/OM4/OS2, in lengths from 10 to 300 meters.
- For data centers, we have indoor prefabs in OM4/OS2 up to 100 meters with 24 fibers.
- For high density data center applications, we have MTP/MPO trunk cables in OM4 with 1/2/4 MTP/MPO connectors on each side up to 100 meters.

Prefer to weld connectors yourself? Then you can choose our indoor/outdoor cable on reels in any length.



Intronics supplies a full portfolio of fiber optic transceivers.

These are also referred to as SFP or mini GBIC modules. Fiber optic transceivers are used to let switches and servers communicate with each other via fiber optics.

The fiber optic modules can be coded for compatibility with well-known brands of telecom and networking equipment. With traditional network equipment and twisted pair (UTP) cabling, the cable is connected directly to the network device such as a switch or server. With fiber optic cabling, the fiber optic cable is connected to an optical transceiver that plugs into the network equipment.

The optical transceiver is an intermediate step to increase the flexibility of the network equipment used such as switches and servers.



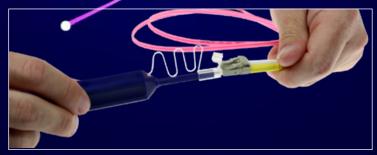
#### Patch panels, patch boxes, adapters and more



A patch panel is the ideal way to connect your network cables in an orderly way. ACT's patch panels offer a complete solution for connecting your cables. ACT's patch panel range consists of 19" patch panels and enclosures with both standard and Multifunctional HD series. ACT also has patch boxes with a variety of formfactors.

#### Fiber cleaners

DO IT YOURSEL



A major advantage of fiber-optic cables is the ability to transmit large amounts of data over long distances in a short time. However, it is important to minimise contamination on the connectors. Dust particles not visible to the naked eye can already cause the entire core diameter to be blocked. Fiber cleaning is therefore an essential part of high-quality fiber-optic installations.

#### Polarity Twist™ fiber-optic patch cable

#### Save time and space with Polarity Twist™

De Polarity Twist<sup>TM</sup> is 60% thinner than conventional fiber-optic patch cables and equipped with a unique connector. With this connector you can change the polarity of the patch cable within seconds. Not the fibers are switched but you can turn the connector 180° within second.

Because the Polarity Twist™ is 60% thinner than a conventional patch cable, you save space in a data center or serverroom. As the number of connections in data centres and server cabinets has been increasing for years, this is a great advantage. Due to the smaller diameter, these cables also have a smaller bending radius, making them more flexible and easier to handle.

# **Polarity** twist

#### Advantages Polarity Twist™:

• Easier to install and manage Space-saving • Better airflow • Suitable for APC connectors 60% thinner · Available in high density patch cables See series RL82xx, RL83xx en RL84xx. Flexible Better Saves Valuable Advantages Space **Polarity Twist** Patch Cables Easier Change polarity fast cable



#### Prefab cables are used by:

- Installation technicians
- System integrators
- Data centers

#### Advantages prefab cables:

- Connectors are terminated and tested in a clean room environment
- Including an individual testrapport on insertion loss and a 5 year warranty
- No need to invest in equipment for splicing and testing
- Up to 80% less installation time
- Connectors are proctected by a special tube during installation

Prefab cables are available from stock in the lengths 10 meter up to 300 meter in OM3, OM4 as well as OS2. These are loose tube indoor/outdoor cables with 4, 8 or 12 fibers. All other formats and types are custom-made with a very short lead-time.



# **ALT** 4 Fibers prefab indoor/outdoor cables OS2, with LC connectors

Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Yellow	<u>RL2301</u>	<u>RL2302</u>	<u>RL2303</u>	<u>RL2304</u>	<u>RL2305</u>	<u>RL2306</u>	<u>RL2307</u>	<u>RL2308</u>	<u>RL2309</u>	<u>RL2310</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Yellow	RL2311	RL2312	<u>RL2313</u>	RL2314	<u>RL2315</u>	RL2316	RL2317	RL2318	RL2319	<u>RL2320</u>
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Yellow	RL2321	<u>RL2322</u>	RL2323	RL2324	<u>RL2325</u>	<u>RL2326</u>	RL2327	RL2328	RL2329	RL2330

# **ALT** 4 Fibers prefab indoor/outdoor cables OM3, with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Aqua	<u>RL2401</u>	<u>RL2402</u>	<u>RL2403</u>	<u>RL2404</u>	<u>RL2405</u>	<u>RL2406</u>	RL2407	<u>RL2408</u>	<u>RL2409</u>	RL2410
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Aqua	<u>RL2411</u>	RL2412	<u>RL2413</u>	RL2414	RL2415	RL2416	RL2417	<u>RL2418</u>	RL2419	RL2420
	210m	220m	230m	240m	250m	260m	270m	290m	300m	
Aqua	RL2421	RL2422	<u>RL2423</u>	RL2424	RL2425	RL2426	RL2427	RL2429	RL2430	

# ALT Multimode 50/125 OM4 indoor/outdoor cables fourfold with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Erica violet	<u>RL2201</u>	<u>RL2202</u>	<u>RL2203</u>	<u>RL2204</u>	<u>RL2205</u>	<u>RL2206</u>	<u>RL2207</u>	<u>RL2208</u>	<u>RL2209</u>	<u>RL2210</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Erica violet	<u>RL2211</u>	<u>RL2212</u>	<u>RL2213</u>	<u>RL2214</u>	<u>RL2215</u>	<u>RL2216</u>	<u>RL2217</u>	RL2218	<u>RL2219</u>	<u>RL2220</u>
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Erica violet	<u>RL2221</u>	<u>RL2222</u>	<u>RL2223</u>	<u>RL2224</u>	<u>RL2225</u>	<u>RL2226</u>	<u>RL2227</u>	<u>RL2228</u>	<u>RL2229</u>	<u>RL2230</u>

# **ALT** 8 Fibers prefab indoor/outdoor cables OS2, with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Yellow	<u>RL4101</u>	<u>RL4102</u>	<u>RL4103</u>	<u>RL4104</u>	<u>RL4105</u>	<u>RL4106</u>	RL4107	<u>RL4108</u>	<u>RL4109</u>	<u>RL4110</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Yellow	<u>RL4111</u>	<u>RL4112</u>	<u>RL4113</u>	<u>RL4114</u>	<u>RL4115</u>	<u>RL4116</u>	<u>RL4117</u>	<u>RL4118</u>	<u>RL4119</u>	RL4120
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Yellow	RL4121	RL4122	RL4123	RL4124	RL4125	RL4126	RL4127	RL4128	RL4129	RL4130

# **ALT** 8 Fibers prefab indoor/outdoor cables OM3, with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Aqua	<u>RL4201</u>	<u>RL4202</u>	<u>RL4203</u>	<u>RL4204</u>	RL4205	<u>RL4206</u>	RL4207	<u>RL4208</u>	<u>RL4209</u>	<u>RL4210</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Aqua	<u>RL4211</u>	<u>RL4212</u>	<u>RL4213</u>	<u>RL4214</u>	<u>RL4215</u>	<u>RL4216</u>	RL4217	<u>RL4218</u>	<u>RL4219</u>	RL4220
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Aqua	RL4221	<u>RL4222</u>	RL4223	<u>RL4224</u>	RL4225	<u>RL4226</u>	RL4227	<u>RL4228</u>	RL4229	RL4230

# Prefab cables: indoor/outdoor cables

# ALT Multimode 50/125 OM4 indoor/outdoor cable 8-fold with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Erica violet	RL4301	RL4302	<u>RL4303</u>	<u>RL4304</u>	RL4305	<u>RL4306</u>	RL4307	<u>RL4308</u>	<u>RL4309</u>	<u>RL4310</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Erica violet	<u>RL4311</u>	<u>RL4312</u>	<u>RL4313</u>	<u>RL4314</u>	<u>RL4315</u>	<u>RL4316</u>	<u>RL4317</u>	<u>RL4318</u>	<u>RL4319</u>	RL4320
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Erica violet	<u>RL4321</u>	<u>RL4322</u>	<u>RL4323</u>	<u>RL4324</u>	<u>RL4325</u>	<u>RL4326</u>	<u>RL4327</u>	<u>RL4328</u>	<u>RL4329</u>	<u>RL4330</u>

# Singlemode 9/125 OS2 indoor/outdoor cable 12-fold with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Yellow	RL4501	<u>RL4502</u>	<u>RL4503</u>	<u>RL4504</u>	<u>RL4505</u>	<u>RL4506</u>	RL4507	<u>RL4508</u>	RL4509	<u>RL4510</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Yellow	RL4511	<u>RL4512</u>	<u>RL4513</u>	<u>RL4514</u>	<u>RL4515</u>	<u>RL4516</u>	RL4517	<u>RL4518</u>	<u>RL4519</u>	<u>RL4520</u>
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Yellow	RL4521	<u>RL4522</u>	<u>RL4523</u>	<u>RL4524</u>	<u>RL4525</u>	<u>RL4526</u>	RL4527	<u>RL4528</u>	<u>RL4529</u>	<u>RL4530</u>

# ALT Multimode 50/125 OM3 indoor/outdoor cable 12-fold with LC connectors



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Aqua	<u>RL4601</u>	<u>RL4602</u>	<u>RL4603</u>	RL4604	RL4605	<u>RL4606</u>	RL4607	<u>RL4608</u>	<u>RL4609</u>	<u>RL4610</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Aqua	<u>RL4611</u>	<u>RL4612</u>	<u>RL4613</u>	<u>RL4614</u>	<u>RL4615</u>	<u>RL4616</u>	<u>RL4617</u>	<u>RL4618</u>	<u>RL4619</u>	<u>RL4620</u>
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Aqua	RL4621	RL4622	RL4623	RL4624	<u>RL4625</u>	RL4626	RL4627	RL4628	RL4629	RL4630

# **ALT** Multimode 50/125 OM4 indoor/outdoor cable 12-fold with LC connectores



Colour	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
Erica violet	RL4701	<u>RL4702</u>	<u>RL4703</u>	<u>RL4704</u>	<u>RL4705</u>	<u>RL4706</u>	RL4707	<u>RL4708</u>	RL4709	<u>RL4710</u>
	110m	120m	130m	140m	150m	160m	170m	180m	190m	200m
Erica violet	<u>RL4711</u>	<u>RL4712</u>	<u>RL4713</u>	<u>RL4714</u>	<u>RL4715</u>	<u>RL4716</u>	<u>RL4717</u>	<u>RL4718</u>	<u>RL4719</u>	<u>RL4720</u>
	210m	220m	230m	240m	250m	260m	270m	280m	290m	300m
Erica violet	RL4721	RL4722	RL4723	RL4724	RL4725	RL4726	RL4727	<u>RL4728</u>	RL4729	RL4730

#### Prefab cables: indoor cables for a data center or serverroom

# **ALT** 24 fibers prefab OS2 indoor, with LC Polarity Twist™ connectors



Colour	3m	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	60m	70m	80m	90m	100m
Yellow	DC5550	DC5551	DC5552	DC5553	DC5554	DC5555	DC5556	DC5557	DC5558	DC5559	DC5560	DC5561	DC5562	DC5563	DC5564	DC5565

# **ALT** 24 fibers prefab OM4 (OM3) indoor, with LC Polarity Twist™ connectors



																9.0
Colour	3m	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	60m	70m	80m	90m	100m
Erika violet	DC5500	DC5501	DC5502	DC5503	DC5504	DC5505	DC5506	DC5507	DC5508	DC5509	DC5510	DC5511	DC5512	DC5513	DC5514	DC5515

# ALT 1x 12 fibers trunk cable OM4 (OM3), with 1x MTP/MPO connectors on both sides



Colour	25m	30m	35m	40m	45m	50m	60m	70m	80m	90m	100m
Polarity A											
Erica violet	DC5000	DC5001	DC5002	DC5003	DC5004	DC5005	DC5006	DC5007	DC5008	DC5009	DC5010
Polarity B											
Erica violet	DC5020	DC5021	DC5022	DC5023	DC5024	DC5025	DC5026	DC5027	DC5028	DC5029	DC5030



#### ALT 2x 12 fibers trunk cable OM4 (OM3), with 2x MTP/MPO connectors on both sides 50m Colour 5m 7m 10m 12m 30m 35m 45m 15m 20m 25m 40m Polarity A DC5200 DC5201 DC5202 DC5203 DC5204 DC5207 DC5208 DC5209 DC5210 DC5205 DC5206 DC5211 Polarity B DC5250 DC5251 DC5252 DC5253 DC5254 DC5255 DC5256 DC5257 DC5258 DC5259 DC5260 DC5261

#### Fiber-optic cleaners





ACT Fiber-optic o	leaners		
Туре по.	LC/MU	SC/ST/FC/E2000	MPO/MTP
One click cleaner	<u>EA9910</u>	<u>EA9911</u>	<u>EA9912</u>
Cleaning sticks	<u>EA9904</u>	<u>EA9905</u>	
Reel Cleaner	<u>EA9901</u>	EA9901	<u>EA9901</u>
Spare reel for EA9901	<u>EA9902</u>	<u>EA9902</u>	<u>EA9902</u>



#### ACT solutions for patching fiber-optic and more

ACT has a wide range of solutions for patching fiber-optic cabling. In this overview we present our 19" patch panels and enslosures in a standard version as well as the Multifunctional HD series. We show you the different options and advantages to help you choose the best patching solution that meets your requirements.

#### ACT fiber-optic patch panel enclosures

ACT fiber-optic patch panel enclosures are designed for convenience and offer a complete solutions for patching your fibers.

#### ACT panel enclosures offer:

- 2 splice cassettes,
- 2 M20 glands,
- Management spools, for storing overlength,
- Tie wraps and self-adhesive tie wrap cable mounts.



#### Fiber-optic panel enclosure loaded

Loaded

• Installation time: 2-5 minutes

• Customisation: Low

Advantage of the loaded panel enclosure is the short installation time. The adapters and accessories are already installed, which saves installation time. For prefab cabling you do not need any extra's. For installation cables without connectors pigtails can be added.



ACT Fiber-optic enclosure loaded										
	OM3LC	OM4LC	OS2LC	OM3SC	OS2SC					
24 Ports	<u>FA2037</u>	<u>FA2040</u>	<u>FA2036</u>	FA2039	<u>FA2038</u>					

#### Fiber-optic panel enclosure unloaded

Unloaded

• Installation time: 7-10 minutes

Customisation: High

The ACT panel enclosures unloaded are a flexible solutions, because they can be equipped with different kinds of fiber-optic adapters. When you only need a few adapters or a combination of different kinds of fiber-optic adapters, this panel is a suitable choice.



<b>ALT</b> Fiber-optic e	nclosure unloaded
24 Ports	<u>FA2044</u>
48 Ports	FA2097

#### **ACT solutions for fiber-optic**



#### **ACT** fiber-optic patch panels

ACT patch panels are a lightweight solution used for prefab cables. Patch panels save space and time, because they have no enclosure. Instead of an enclosure, these panels have a smaller cable management bar. The cabling can be attached to the bar with a Hook & loop cable tie.



#### Fiber-optic panels loaded

Loaded

• Installation time: 2-5 minutes

• Customisation: low

The loaded fiber-optic patchpanels are panels with a high density of 96 ports/192 fibers per U. The panels are a lightweight solution and come with a cable management panel at the rear end.



# Connector OM4LC OS2LC 96 Ports, 1U FA2100 FA2101

#### Fiber-optic panels unloaded

Unloaded

• Installation time: 7-10 minutes

• Customisation: high

An ACT unloaded fiber-optic panel is a flexible and lightweight solution which can be equipped with different kinds of fiber-optic adapters. When you only need a few adapters or a combination of different adapters, this panel is a suitable choice. The unloaded fiber-optic panels are available in 24 ports (FA2047) and 48 ports (FA2095).



ALT Fiber-optic p	panels unloaded
24 Ports, 1U	<u>FA2047</u>
48 Ports, 1U	<u>FA2095</u>

# **ACT solutions for fiber-optic**

#### **ACT fiber-optic boxes**

ACT fiber boxes are small enclosures that are not for 19" use. The enclosures are unloaded, you can easily add adapters and pigtails.

# Fiber-optic boxes 8 Ports 16 Ports 12 Ports DIN RAIL 2 Ports Type FA2033 FA2034 FA2043 FA2032

#### **ACT fiber-optic adapters**

Here is an overview of fiber optic adapters and in which panels they fit.

EA2002

EA2002

An LC connector is half the size of SC, ST, MTP and FC connector. Therefore, duplex LC has the same dimensions as simplex SC

ALT Fiber-optic adapte	rs	<u>'</u>		·			·	
Description	OM1	OM2	OM3	OM4	OM5	O\$1/2	OS1/2 APC	Metal
MTP(MPO)-MTP(MPO) flange	EA9010	EA9010	EA9010	EA9010	EA9010	EA9010	EA9010	
LC-LC duplex flange	EA1005	EA1005	EA9005	EA9006	EA1016	EA1004	EA9007	
SC-SC simplex flange	EA1023	EA1023	EA1024	EA1025	EA1026	EA2003	EA3005	
LC-SC simplex flange								EA8001
SC-ST simplex flange	EA1036	EA1036	EA1036	EA1036	EA1036	EA1036		
ST-ST simplex flange	EA2004	EA2004	EA2004	EA2004	EA2004	EA2004		EA2004
LC-ST simplex flange	EA1040	<u>EA1040</u>	EA1040	EA1040	EA1040	<u>EA1040</u>		EA1040
Panels and boxes that fit with du	ıplex LC / simplex	SC:						
Unloaded 19" patch panels FA2044 FA2047								

ACT Fiber-optic adapters										
Description	OM1	OM2	OM3	OM4	OM5	OS1/2	OS1/2 APC			
LC-LC quad flange	EA1018	EA1018	EA9008	EA9009	EA1019	EA1020	EA1021			
SC-SC duplex flange	EA1006	EA1006	EA3003	EA3004	EA1027	EA3002	EA1028			

Panels that fit with Quad LC, Duplex SC:							
Unloaded 19" patch panels	FA2095	FA2097					

EA2002

EA2002

EA2002

EA2002

#### Adapters with different assembly:

Adapters with different a	ssembly.	
ALT Fiber-optic adap	ers	1
Description	Metal	
ST-ST simplex round	<u>EA1001</u>	
Description	Multimode	
LC-LC duplex square	<u>EA9002</u>	

#### **ACT Pigtails**

SC-ST duplex flange

#### 12 pack ACT pigtails.

ACT pigtails are available in a pack of 12 in different colours. When ordered individually, the colour is equal to the colour scheme of the fiber type, i.e. yellow for OS2, aqua for OM3 and erika violet for OM4.

ACT Pigtails							
Connector		SC					
Туре	1m / 1pcs	1m / 12pcs	2m / 1pcs	2m / 12pcs	1m / 1pcs		
Type OM3	<u>RL9695</u>	RL9680			RL8695		
OM4	<u>RL8795</u>	RL3780			RL8795		
OS2	<u>RL9995</u>	<u>RL9980</u>	<u>RL9996</u>	RL9982	<u>RL8995</u>		



## Fiber-optic protection



#### **ACT** cassettes

ACT also offers the SK121 splice cassette (FA2082) which is suited for both thermo as well as crimp slice protectors. The SK121 cassettes are stackable and have a lid and space for 2 splice holders per cassette.

ALT Cassette					
Туре	Cassette	Cover	Thermo holder 6x	Crimp holder 12x	
	FA2082	FA2083	FA2084	FA2081	

ACT Accessories		
Туре	Cable guide for fiber-optic panel	Cable guide with front for fiber-optic panel
	<u>FA2068</u>	<u>FA2069</u>
	Compatible with: FA2036, FA2037, FA2038, FA2039, FA2040, FA2050, FA2	2095

## **ACT Multifunctional HD fiber-optic patch panel**

- Installation time: 3-6 minutes
- Customisation: high
- Extra: also suitable for twisted pair Cat5E-Cat8 and USB-C, USB-A en HDMI

Multifunctional HD fiber-optic patch panels can be easily equipped with cassettes and adapter plates. The cassettes and adapter plates can be added to the panel in just a few seconds. Using ACT Multifunctional HD fiber-optic patch panels ensures flexibility, short installation time and high density. For even more flexibility, the adapter plates fit keystone form factor products. This means the panels can accommodate twisted pair CAT5E through CAT8, as well as USB-A, USB-C and HDMI. The ACT Multifunctional HD fiber-optic patch panels are high-density panel enclosures. This means up to 60 connections / 120 fibers in the 1U version and 144 connections / 288 fibers in the 2U version.

ALT Multifunctional HD fiber panel						
5 slots 1U	12 slots 2U					
<u>FA2050</u>	<u>FA2056</u>					

## Cassettes

Cassettes consist of an adapter plate with a small housing behind it. The housing in the ACT cassettes is used to house the MTP to LC cable and the adapter plate is filled with LC duplex adapters.



ACT Cassettes		
	OM4	OS2
1x MTP-12xLC	<u>FA2054</u>	<u>FA2055</u>
2x MTP-24xLC	<u>FA2052</u>	<u>FA2053</u>

## ACT solutions for fiber-optic

# Adapter plates

ACT supplies adapter plates that can be fitted with keystone modules. Photo: Adapter plate fitted with HDMI, USB-A and USB-C adapters



ACT Adapter plates										
	OM4	OS2	OS2 APC		Unshielded	Shielded				
24x LC-LC	<u>FA2152</u>	FA2153	<u>FA2151</u>	4x keystone/coupler	FA2057	<u>FA2058</u>				
12x LC-LC	<u>FA2155</u>	<u>FA2156</u>	<u>FA2154</u>							
12x SC-SC	FA2158	FA2159	FA2157							
6x SC-SC		FA2162	FA2160							
Blind plate			<u>FA</u>	2049						
Adapter brush plate		FA2148								
Adapter plate 2X20mm slots			<u>FA</u>	2149						

## Keystones / couplers

The keystones and couplers add extra flexibility, because the panels can be equipped with twisted pair CAT5E till CAT8 but also with USB-A, USB-C and HDMI. Keystones and couplers are compatibe with FA2057 and FA2058.



ACT Keystones / couplers									
	CAT5E	CAT6	CAT6	CAT8	Shielded				
Keystone	<u>TD5012</u>	<u>TD6013</u>	TD6012	<u>TD8511</u>	<u>FA2058</u>				
	CAT5E	CAT5E	CAT6	CAT6	CAT6A				
Coupler	<u>SD5009</u>	<u>SD5019</u>	<u>SD6009</u>	<u>SD6019</u>	<u>SD6519</u>				
	LC	HDMI	HDMI 90gr	USB-A	USB-C				
Coupler	<u>TD4101</u>	<u>TD4102</u>	<u>TD4103</u>	<u>TD4104</u>	<u>TD4105</u>				

## Fiber-optic tools

ACT Fiber-optic tools	
Fiber-optic cable tester	Fiber-optic microscope
CX1007	CX1008



## MTP / MPO patch cable

If you want to make connections at high speeds (40G and above), an MTP I MPO patch cable is an excellent choice. It can connect 12 fibers at once via 1 compact cable. The cable is used in situations where bandwidth is high and distance is short (maximum 100 meters). For lengths from 20 meters, see our Trunk cables.



# ACT MTP/MPO to MTP / MPO patch cables

_	
100	

Colour	1m	2m	3m	5m	7m	10m	12m	15m	20m
OM4 Polarity	<u>RL7741</u>	<u>RL7742</u>	<u>RL7743</u>	<u>RL7745</u>	<u>RL7747</u>	<u>RL7750</u>	<u>RL7752</u>	<u>RL7755</u>	<u>RL7760</u>
OM4 Polarity	<u>RL7761</u>	<u>RL7762</u>	<u>RL7763</u>	<u>RL7765</u>	<u>RL7767</u>	<u>RL7770</u>	<u>RL7772</u>	<u>RL7775</u>	<u>RL7780</u>
OS2 Polarity A	<u>RL7781</u>	<u>RL7782</u>	<u>RL7783</u>	<u>RL7785</u>	<u>RL7787</u>	<u>RL7790</u>	<u>RL7792</u>	<u>RL7795</u>	<u>RL7800</u>

## **ALT** MTP / MPO to LC fanout cables



Colour	1m	2m	3m	5m
OM4 8 fibers	<u>RL7841</u>	<u>RL7842</u>	<u>RL7843</u>	<u>RL7845</u>
OM4 12 fibers	<u>RL7851</u>	<u>RL7852</u>	<u>RL7853</u>	<u>RL7855</u>
OS2 8 fibers	<u>RL7861</u>	<u>RL7862</u>	<u>RL7863</u>	<u>RL7865</u>
OS2 12 fibers	<u>RL7871</u>	<u>RL7872</u>	<u>RL7873</u>	<u>RL7875</u>

## Duplex patch cable - most commonly used

Duplex patch cables are the most commonly used patch cables. Duplex patch cables consist of two connected cables with one fiber per cable. The two cables can be easily separated by unzipping them apart, which is why duplex patch cables are also called zipcords. Duplex patch cables use one fiber for transmitting and one for receiving, enabling two-way communication for purposes such as internet and interactive TV. Most patch cables are variants of duplex patch cables with a specific enhancement. This applies to uniboot (HD), short boot ruggedised and armoured patch cables.



## ALT 50/125µm OM5 Multimode patch cable LSZH



Colour	Connectors	0.5m	1m	1.5m	2m	3m	5m
Lime	LC-LC	RL5800	RL5801	RL5851	RL5802	RL5803	RL5805
Lime	LC-SC	RL5900	RL5901	RL5951	RL5902	RL5903	RL5905

## **ALT** LSZH Multimode 50/125 OM4 fiber-optic patch cable duplex with LC connectors



Colour	0.25m	0.5m	1m	1.5m	2m	2.5m	3m	4m	5m	7m
Erica violet	<u>RL9752</u>	<u>RL9700</u>	<u>RL9701</u>	<u>RL9751</u>	RL9702	RL9753	RL9703	RL9704	RL9705	<u>RL9707</u>
	10m	12m	15m	17m	20m	22m	25m	27m	30m	35m
Erica violet	RL9710	RL9712	RL9715	RL9717	RL9720	RL9722	RL9725	RL9727	RL9730	RL9735
	40m	45m	50m							
Erica violet	RL9740	RL9745								

# ALT LSZH Multimode 50/125 OM4 fiber-optic patch cable duplex with LC and SC connectors



Colour	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	30m	50m
Erica violet	RL8701	RL8751	RL8702	RL8703	RL8705	RL8707	RL8710	RL8715	RL8720	RL8730	RL8750

# ALT LSZH Multimode 50/125 OM4 fiber-optic patch cable duplex with SC connectors



Colour	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	30m	50m
Erica violet	RL3701	RL3751	RL3702	RL3703	RL3705	RL3707	RL3710	RL3715	RL3720	RL3730	RL3750

## Fiber-optic patch cables

## ALT LSZH Multimode 50/125 OM3 fiber-optic patch cable duplex with LC connectors

LSZH	Multimode :	00/125 ONIS	liber-optic p	atch cable du	ipiex with LC	. connectors				-
Colour	0.25m	0.5m	1m	1.5m	2m	2.5m	3m	4m	5m	7m
Aqua	<u>RL9652</u>	<u>RL9600</u>	<u>RL9601</u>	<u>RL9651</u>	<u>RL9602</u>	<u>RL9653</u>	<u>RL9603</u>	<u>RL9604</u>	<u>RL9605</u>	RL9607
	10m	12m	15m	17m	20m	22m	25m	27m	30m	35m
Aqua	<u>RL9610</u>	<u>RL9612</u>	<u>RL9615</u>	<u>RL9617</u>	<u>RL9620</u>	<u>RL9625</u>	<u>RL9625</u>	<u>RL9627</u>	<u>RL9630</u>	<u>RL9635</u>
	40m	45m	50m							
Agua	RL9640	RL9645								

# ALT LSZH Multimode 50/125 OM3 fiber-optic patch cable duplex with LC and SC connectors

										1000
Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	12m	15m
Aqua	RL8600	RL8601	RL8651	RL8602	<u>RL8603</u>	RL8605	RL8607	<u>RL8610</u>	<u>RL8612</u>	<u>RL8615</u>
	17m	20m	22m	23m	25m	30m	35m	40m	45m	
Aqua	RL8617	RL8620	RL8622	RL8623	RL8625	RL8630	RL8635	RL8640	RL8645	
	50m									
Aqua	RL8650									

# ALT LSZH Multimode 50/125 OM3 fiber-optic patch cable duplex with LC and ST connectors

								-
Colour	1m	1.5m	2m	3m	5m	7m	10m	20m
Aqua	RL7601	RL7651	RL7602	RL7603	RL7605	RL7607	RL7610	RL7620

# **ALT** LSZH Multimode 50/125 OM3 fiber-optic patch cable duplex with SC connectors

Colour	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	30m	50m
Aqua	RL3600	RL3601	RL3651	RL3602	RL3603	RL3605	RL3607	RL3610	RL3615	RL3620	RL3630	RL3650

## ALT 50/125µm OM2 Multimode duplex patch cables LSZH

7	, 125µIII O	MIZ MIGHT	mode dup	icx pateri t	abics LJZ								-
Colour	Connectors	0.50m	1m	1.5m	2m	3m	5m	10m	15m	20m	25m	30m	50m
Orange	LC-LC	RL9500	RL9501	RL9551	RL9502	RL9503	RL9505	RL9510	RL9515	RL9520	RL9525	RL9530	RL9550
Orange	LC-SC	RL8500	RL8501	RL8551	RL8502	RL8503	RL8505	RL8510	RL8515	RL8520		RL8530	RL8550
Orange	LC-ST		RL7501	RL7551	RL7502	RL7503	RL7505	RL7510	RL7515	RL7520		RL7530	RL7550
Orange	SC-SC	RL3500	RL3501	RL3551	RL3502	RL3503	RL3505	RL3510	RL3515	RL3520		RL3530	RL3550
Orange	SC-ST	RL2500	RL2501	RL2551	RL2502	RL2503	RL2505	RL2510	RL2515	RL2520		RL2530	RL2550
Orange	ST-ST	RL1500	<u>RL1501</u>	<u>RL1551</u>	RL1502	RL1503	RL1505	<u>RL1510</u>	<u>RL1515</u>	RL1520		RL1530	RL1550

# ACT 62,5/125μm OM1 Multimode duplex patch cables LSZH

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Colour	Connectors	0.50m	1m	1.5m	2m	3m	5m	10m	15m	20m	25m	30m	50m
Orange	LC-LC	RL9000	RL9001	RL9051	RL9002	RL9003	RL9005	RL9010	RL9015	RL9020	RL9025	RL9030	RL9050
Orange	LC-SC	RL8000	RL8001	RL8051	RL8002	RL8003	RL8005	RL8010	RL8015	RL8020			
Orange	LC-ST		RL7001	RL7051	RL7002	RL7003	RL7005	RL7010	RL7015	RL7020		RL7030	RL7050
Orange	SC-SC	RL3000	RL3001	RL3051	RL3002	RL3003	RL3005	RL3010	RL3015	RL3020			RL3050
Orange	SC-ST	RL2000	RL2001	RL2051	RL2002	RL2003	RL2005	RL2010	RL2015	RL2020		RL2030	RL2050
Orange	ST-ST	RL1000	RL1001	RL1051	RL1002	RL1003	RL1005	RL1010	RL1015	RL1020		RL1030	RL1050

## ALT 9/125µm OS2 Single mode duplex patch cables LSZH

	3/ 123piii O	JZ JIIISI	c illouc	aupicx	patent	ubics L3											
Colour	Connectors	0.25m	0.5m	1m	1.5m	2m	2.5m	3m	4m	5m	7m	10m	15m	20m	25m	30m	50m
Yellow	LC-LC	RL9952	RL9900	RL9901	RL9951	RL9902	RL9953	RL9903	RL9904	RL9905	RL9907	RL9910	RL9915	RL9920	RL9925	RL9930	RL9950
Yellow	LC-SC		RL8900	RL8901	RL8951	RL8902		RL8903		RL8905	RL8907	RL8910	RL8915	RL8920	RL8925	RL8930	RL8950
Yellow	LC-ST			RL7901	RL7951	RL7902		RL7903		RL7905		RL7910	RL7915	RL7920		RL7930	RL7950
Yellow	SC-SC		RL3900	RL3901	RL3951	RL3902		RL3903		RL3905		RL3910	RL3915	RL3920		RL3930	RL3950
Yellow	SC-ST			RL2901	RL2951	RL2902		RL2903		RL2905		RL2910	RL2915	RL2920			
Yellow	LC/APC-LC/APC		RL2600	RL2601	RL2651	RL2602		RL2603		RL2605		RL2610		RL2620			
Yellow	LC/APC-SC/APC			RL2701		RL2702		RL2703		RL2705		RL2710					
Yellow	LC/APC-LC/UPC			RL2801		RL2802		RL2803		RL2805		RL2810					
Yellow	SC/APC8-LC/PC		RL8800	RL8801	RL8851	RL8802		RL8803		RL8805		RL8810	RL8815	RL8820	RL8825	RL8830	RL8850
Yellow	SC/APC8-SC/PC		RL3800	RL3801		RL3802		RL3803		RL3805		RL3810	RL3815	RL3820	RL3825	RL3830	RL3850
Yellow	SC/APC8-SC/APC8		RL1600	RL1601		RL1602		RL1603		RL1605		RL1610	RL1615	RL1620			
Yellow	E2000/APC-LC/UPC			RL3201		RL3202		RL3203		RL3205	RL3207	RL3210					



## Simplex patch cable - sending and receiving over one cable

With simplex patch cables you can cut your need of cables/fibers in half. This works with fiber optic modules that enable two way communication over one fiber. These cables are commonly used in FTTH/telecom applications in order to minimise the number of fibers used. Simplex patch cables are only available in Singlemode, not in Multimode.



# ACT 9/125μm OS2 single mode simplex patch cables LSZH Colour Connectors 0.5m 1m 1.5m 2m 3m Yellow LC-LC RL9990 RL9991 RL9992 RL9992 RL9993

## Short boot patch cable – when space is limited

When you have limited space for the connector due to a small enclosure or a short distance between the panel and the door of a 19" cabinet, short boot patch cables are a great solution. Short boot differs from duplex patch cables by having a shorter boot on the connector.



<b>ACT</b> 9/	125µm OS2 Sin	igle mode	duplex pat	ch cables l	.SZH							N. W.
Colour	Connectors	0.5m	1m	2m	3m	5m	10m	15m	20m	25m	30m	50m
Yellow	LC-LC short boot	RL1700	<u>RL1701</u>	<u>RL1702</u>	RL1703	RL1705	<u>RL1710</u>	RL1715	<u>RL1720</u>	RL1725	RL1730	<u>RL1750</u>
Yellow	LC short boot -SC	<u>RL1800</u>	<u>RL1801</u>	RL1802	<u>RL1803</u>	RL1805	<u>RL1810</u>	<u>RL1815</u>	<u>RL1820</u>	<u>RL1825</u>	<u>RL1830</u>	<u>RL1850</u>

## Polarity Twist™ patch cables - for high density panels and easy cable management

Polarity Twist™ connectors offer multiple advantages:

- The polarity of the two fibers can be adjusted within seconds, by twisting the outside of the connector.
- Halving the number of fanout cables by using 2 fibers per connector/fanout cable.
- Thinner fanout cables, 2mm instead of 3mm thick, a saving of 33%.



ACT	50/125µn	n OM3 Po	olarity Twi	st™ patcl	h cables L	SZH							•	44.44
Colour	Connectors	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	12m	15m	17m	20m
Aqua	LC-LC	RL8352	RL8300	RL8301	RL8351	RL8302	RL8303	RL8305	RL8307	RL8310	RL8312	RL8315	RL8317	RL8320

ACT	50/125µn	n OM4 Po	olarity Twi	ist™ patcl	h cables L	SZH								MAT
Colour	Connectors	0.25m	0.5m	1m	1.5m	2m	3m	5m	7m	10m	12m	15m	17m	20m
Erica violet	LC-LC	RL8452	RL8400	RL8401	RL8451	RL8402	RL8403	RL8405	RL8407	RL8410	RL8412	RL8415	RL8417	RL8420

ACT	ACT 9/125μm OS2 G657A Polarity Twist™ patch cables LSZH									,	44			
Colour	Colour         Connectors         0.25m         0.5m         1m         1.5m         2m         3m         5m         7m         10m         12m         15m         17m										20m			
Yellow	LC-LC	RL8252	RL8200	RL8201	RL8251	RL8202	RL8203	RL8205	RL8207	RL8210	RL8212	RL8215	RL8217	RL8220



## Ruggedized patch cable – better mechanical protection

Ruggedized patch cables can be used for longer distances, 10 meters and more. Standard patch cables are used for shorter distances within a 19" cabinet. Ruggedized patch cables have an extra jacket for better mechanical protection and are also called Flatoval fiber-optic patch cables due to the oval shape of the extra jacket.



## ALT 50/125µm OM3 Duplex ruggedized patch cables LSZH

Colour	Connectors	10m	20m	30m	40m	50m
Aqua	LC-LC	<u>RL5101</u>	<u>RL5102</u>	<u>RL5103</u>	<u>RL5104</u>	<u>RL5105</u>
Aqua	LC-SC	<u>RL5201</u>	<u>RL5202</u>	<u>RL5203</u>	RL5204	<u>RL5205</u>
Aqua	SC-SC	<u>RL5301</u>	<u>RL5302</u>	<u>RL5303</u>	<u>RL5304</u>	<u>RL5305</u>

## ALT 9/125um OS2 duplex ruggedized patch cables LSZH

3/ 123μiii O3	9/ 125µiii O32 dupiex luggedized patcii cables E3211										
Colour	Connectors	10m	20m	30m	40m	50m					
Yellow	LC-LC	<u>RL5401</u>	<u>RL5402</u>	<u>RL5403</u>	<u>RL5404</u>	<u>RL5405</u>					
Yellow	LC-SC	<u>RL5601</u>	<u>RL5602</u>	<u>RL5603</u>	RL5604	<u>RL5605</u>					
Yellow	SC-SC	RL5701	<u>RL5702</u>	<u>RL5703</u>	<u>RL5704</u>	<u>RL5705</u>					

## Armoured patch cable – the best mechanical protection

If your patch cables are exposed to extreme conditions, choose armoured patch cables.

These are patch cables with a metal protective layer, making them even more robust and protected.

These types of patch cables are often used in industrial and offshore applications.



# 9/125µm OS2 duplex armoured fiber patch cables

Colour	Connectors	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m	40m	50m
Yellow	LC-LC	RL3300	RL3301	RL3351	RL3302	RL3303	RL3305	RL3307	RL3310	RL3315	RL3320	RL3325	RL3330	RL3340	RL3350

ALT 50/125μm OM3 duplex armoured fiber patch cables											4 4				
Colour	Connectors	0.5m	1m	1.5m	2m	3m	5m	7m	10m	15m	20m	25m	30m	40m	50m
Aqua	LC-LC	RL3400	RL3401	RL3451	RL3402	RL3403	RL3405	RL3407	RL3410	RL3415	RL3420	RL3425	RL3430	RL3440	RL3450

## IP67 patch cable

For outdoor use, you can apply patch cables with an IP67 connector for water and dust resistance. These cables are commonly used for connecting antennas in a mobile transmitter mast with ground cabling for wireless applications such as Wi-Fi or mobile internet.





HLI OS2										1	
Colour	Connectors	1m	2m	5m	10m	15m	20m	30m	40m	50m	
Black	LC(IP67)-LC	RL7301	RL7302	RL7305	RL7310	RL7315	RL7320	RL7330	RL7340	RL7350	

# Network switches



<b>ACT</b> Gigabit PoE-	injector	iii
Colour	Description	Type no.
Black	Gigabit PoE+ (30W) injector, plastic	AC4438

<b>ALT</b> Gigabit PoE-	Gigabit PoE+ injector							
Colour	Description	Type no.						
Black	5 port Gigabit network switch, metal	AC4415						
Black	8 port Gigabit network switch, metal	<u>AC4418</u>						
Black	5 port Gigabit network switch, plastic	AC4445						
Black	8 port Gigabit network switch, plastic	<u>AC4448</u>						

<b>ACT</b> Gigabit medi	a converter	
Colour	Description	Type no.
Black	SPF media converter, Gigabit , 1x SFP uncoded, metal	<u>AC4450</u>



## Fiber-optic transceivers

Intronics supplies a full portfolio of fiber-optic transceivers. These are also referred to as SFP or mini GBIC modules. Fiber-optic transceivers are used to let switches and servers communicate with each other through fiber-optics, at the same or at different locations. The fiber-optic modules can be coded for compatibility with A-brand network switches and servers.

With traditional network equipment and twisted pair (UTP) cabling, the cable is connected directly to the network device such as a switch or server. With optical fiber, the fiber-optic cable is connected to an optical transceiver that plugs into the network equipment. The optical receiver is an intermediate step to increase the flexibility of the network equipment used such as switches and servers.

#### Distance, form factor and coding

The wavelength of the laser or LED light source determines the distance that can be covered and the speed of the link. In the market, there is a wide variety of encodings used by different brands such as Cisco and HP.

To choose the right transceiver, a number of details are important: the network protocol, the speed, the wavelength, the maximum distance that can be bridged and the platform that will be used. Transceivers are available in different standards (form factor): QSFP28, CFP4,CFP2, CFP, QSFP+, SFP28, XFP, X2, XENPAK, SFP+,SFP, GBIC.

#### Warranty and compatibility

Our range of optical transceivers is compatible with all A-brands in the field of network equipment. Some of these brands have coding on their transceivers, ACT also offers compatibility with these brands. Some are coded in stock, but it is also possible to code to customer requirements. Thanks to European competition rules, customers can choose their own brand of transceivers and equipment warranty remains guaranteed.

#### The 3 main advantages of optical transceivers

Optical Transceivers, or SFP modules, provide a number of benefits when used in a network environment. For example, professional switches are equipped with SFP ports for connecting the switches to each other. Optical fiber realises high bandwidth combined with distance.

SFP modules form the bridge between the existing equipment and the fiber connection. Another advantage is that SFP modules are hot swappable and therefore equipment does not need to be rebooted.

#### SFP modules are the standard for fiber-optic communication

Network equipment manufacturers support the SFP, SFP+ and QSFP standards. SFP modules are used in various equipment such as:

- switches
- routers
- firewalls
- servers
- storage devices.

The equipment has a port where a SFP module can be plugged into. The abbreviation SFP stands for Small Formfactor Pluggable. The standard for use of SFP modules was created in cooperation with the various manufacturers. This standard is therefore called an MSA, which stands for Multi-Source Agreement.

#### Maximum flexibility in a network

A fiber-optic cable is connected to an SFP module. This module is inserted into the switch. The SFP module serves as an interface between the fiber-optic cable and the connected equipment. This ensures maximum flexibility, because the SFP can be adapted without having to adapt or replace the relevant equipment

Situations where only the SFP module needs to be adapted, instead of the equipment:

- Transition to a network with different type of fiber; for example, from singlemode to multimode.
- Possibility to add extra RJ45 ports to your network.
- Changed distance; for example, from cables of 100 meters to 80 kilometers.
- Change to a different speed; if, for example, switch speed changes from 1G to 10G.
- Different type of fiber optic connector; if, for example, an SC connector is placed on the cabling instead of an LC.

#### Hot swappable SFP modules

When changes in fiber type, distance, speed and connector occur, the SFP module is replaced. An important advantage is that equipment does not have to be switched off or rebooted during SFP module placement, ensuring excellent network continuity. Keeping equipment in operation during installation and/or replacement of fiber optic (SFP) modules is called "Hot swappable".





# **ALT** SFP modules



Description	Open	Cisco	HP Procurve	Netgear	Dell
SFP SX	<u>TR0001</u>	<u>TR0011</u>	<u>TR0021</u>	<u>TR0031</u>	<u>TR0041</u>
SFP LX	<u>TR0002</u>	<u>TR0012</u>	<u>TR0022</u>	<u>TR0032</u>	<u>TR0042</u>
SFP+ SR	<u>TR0003</u>	<u>TR0013</u>	<u>TR0023</u>	<u>TR0033</u>	<u>TR0043</u>
SFP+ LR	<u>TR0004</u>	<u>TR0014</u>	<u>TR0024</u>	<u>TR0034</u>	<u>TR0044</u>

# ALT SFP+ copper RJ45 modules



	Open	Cisco	HP Aruba (813874-B21)	Juniper (EX-SFP-10GE-T)	H3C (SFP-XG-T)
1 Gbase	<u>TR0005</u>	<u>TR0015</u>	TR0025	<u>TR0055</u>	TR0065
10 Gbase	<u>TR0006</u>	<u>TR0016</u>	<u>TR0026</u>	<u>TR0056</u>	<u>TR0066</u>

# **ALT** SFP+ DAC cables



				100
Length	Juniper	Open	НР	Cisco
1m	<u>TR0101</u>	<u>TR0201</u>	<u>TR0301</u>	<u>TR0401</u>
2m	<u>TR0102</u>	<u>TR0202</u>	<u>TR0302</u>	<u>TR0402</u>
3m	<u>TR0103</u>	<u>TR0203</u>	<u>TR0303</u>	<u>TR0403</u>
5m	TR0105	TR0205	<u>TR0305</u>	<u>TR0405</u>

# ACT SFP+ AOC (Active Optical Cable)



311 1 713 € (7161)	ve optical capie,
Length	Cisco
7m	<u>TR0407</u>
10m	<u>TR0408</u>
15m	<u>TR0409</u>
20m	<u>TR0410</u>
25m	<u>TR0411</u>
30m	<u>TR0412</u>
40m	<u>TR0413</u>
50m	TR0414

ALT QSFP28 100GB	direct attached cables (DAC)	
Length	Cisco	Open
1m	<u>TR0415</u>	<u>TR0419</u>
2m	<u>TR0416</u>	<u>TR0420</u>
3m	<u>TR0417</u>	<u>TR0421</u>
5m	<u>TR0418</u>	<u>TR0422</u>



## What is the best video cable solution for my installation?

#### Introduction video cables:

- HDMI (High-Definition Multimedia Interface)
- DisplayPort
- DVI (Digital Visual Interface)
- VGA (Video Graphics Array)

Summary:

#### **HDMI**

HDMI is the most common video cable, supporting video and audio over a single cable, including 8K video resolutions. It defines the current standard for all types of modern audio and video systems HDMI premium certified (max 100m) and hybrid AOC cables (max 100m). The recommended cable length for HDMI is a maximum of five meters, with an exception for HDMI premium certified and hybrid AOC cables.

#### DisplayPort

DisplayPort is a digital video standard designed to offer higher resolutions, refresh rate and colour depth than VGA or DVI. DisplayPort also supports multi-streaming, allowing multiple displays to be connected to a single port. It also supports transmission of audio and other data like USB. DisplayPort is especially popular in professional environments and in the use of high-end video cards. For DisplayPort, we recommend a maximum cable length of 3 meters.

#### **VGA**

VGA is the oldest video interface and suitable for analogue signals, perfect for older monitor systems. The maximum length recommended for VGA cables is 15 meters.

#### DVI

Compared to VGA, the DVI connection is more versatile. DVI can be converted to both VGA and HDMI when using suitable adapters. It delivers a digital signal for better video quality and, thanks to its higher bandwidth, it can reach a maximum resolution of  $2560 \times 1600$  at 60Hz using DVI Dual Link. Cable lengths of up to 5m work for display resolutions up to  $1920 \times 1200$ .

Both DVI and VGA are older protocols that have been replaced by HDMI and DisplayPort.

## HDMI



Let's start with HDMI, the most widely used video cable on the market. You will find the HDMI connector on all modern TVs, monitors and graphics cards. This makes HDMI the most common interface.

HDMI is available in several versions. The most common are 1.4 and 2.0 HDMI High Speed. The latest version is v2.1, HDMI Ultra High Speed. To ensure the best quality, an HDMI premium certified (4K) or Ultra High Speed certified (8K) cable is recommended. These cables are certified and approved by the HDMI.org standard, guaranteeing optimum quality.

HDMI v1.4 also supports HDMI-CEC. This protocol allows devices to communicate with each other. For example, a complete home cinema set with speakers and TV can be switched on when you switch on a digital receiver. For non-UHD screens, the best, cost-effective option is an HDMI 1.4 cable with a maximum resolution of 2560 x 1600 at 75Hz and 1920 x 1080 at 144Hz. These resolutions are very popular among online competitive PC gamers. This cable supports 4K resolution with a maximum refresh rate of 30Hz.

HDMI from v2.0 onwards is recommended when 4K@60Hz resolution needs to be supported. The cable also supports HDR: High Dynamic Range. HDR offers higher contrast, rich colours, deep blacks and intense whites. To ensure the highest 4K@60Hz quality, a premium certified cable approved by the HDMI.org is a good option.

For certain business solutions, we recommend using a lockable HDMI cable to prevent signal loss from the device. Combining this feature with an HDMI premium certified cable provides the most secure business solution.

HDMI v2.1 is the latest HDMI version and has the highest specifications. This version increases the total data rate to 48Gb/s and supports resolutions up to 8K@60Hz and 4K@120Hz. HDMI 2.1 is labelled as Ultra HDMI High Spe ed and is the best option for getting the most out of 8K or 4K HDMI video equipment. For the highest quality, Ultra High Speed Certified cables, certified by HDMI.org, are the best option.

#### DisplayPort



DisplayPort can be found in most modern monitors. Like HDMI, there are several versions, the most common being DP 1.2. The maximum supported resolution for DP 1.2 is 4K at 60Hz. This is mandatory for monitors that support NVIDIA G-Sync or AMD Free Sync. In the case of NVIDIA G-Sync, DisplayPort is mandatory.

#### SST

SST or Single Stream Transport is used with DisplayPort 1.0. With SST, only one stream is possible. SST can have a mirror mode and an extended mode.

#### MST

MST or Multi Stream Transport is available from DisplayPort 1.2 and higher. One of the main advantages of DisplayPort is the possibility of multiple video streams (MST) through daisy-chaining. You can recognise daisy-chaining when the monitor has an input as well as an output.

MST has a mirror mode and extended mode. Mirror mode allows cloning the host laptop's screen to two or three external monitors. The extended mode allows the host laptop to expand to up to three external monitors, each with its own image. To do this, connect the first monitor to the computer and the second monitor to the first. If both the monitor and the computer support MST display chaining, the two displays work as separate screens. TV screens are usually equipped with HDMI ports. There is the option of connecting a DisplayPort to HDMI adapter cable, when you want to connect your device with a DisplayPort source to your TV.

#### DSC (DisplayPort Stream Compression)

The new-generation DisplayPort video products use a higher level of compression to deliver, for example, an 8K output or Dual/Triple display support of 4K. Therefore, Display Stream Compression, or DSC, has been introduced into the DisplayPort protocol.

For external display interfaces, DSC extends resolution across existing connectors and cables, enabling 8K video support over the same connection, or Dual/Triple 4K video playback. DSC is a complementary standard to DP 1.4. From DP 2.0 onwards, DSC is supported by default.

With the advent of DP 2.1 and DSC, it is also possible to work with higher refresh rates, for example when gaming. 144Hz and 240Hz are then also possible.



DisplayPort 1.4	DisplayPort 2.1
5K (5120x2800) @ 60Hz / 24 bits	10K (10240x4320) @ 60Hz / 24 bits
4K (3840x2160) @ 60Hz / 24 bits	8K (7680x4320) @ 30Hz / 30 bits

Maximum resolution on 1 screen without DSC

DisplayPort 1.4 with DSC	DisplayPort 2.1 without DSC	DisplayPort 2.1 with DSC
1x 8K (7680x4320) @60Hz	1x 10K (10240×4320) @60Hz	1x 16K (15360×8460) @60Hz
2x 5K (5120x2800) @60Hz	2x 4K (3840×2160) @144Hz	2x 8K (7680×4320) @120Hz
3x 4K (3840x2160) @60Hz	3x 4K (3840×2160) @90Hz	3x 10K (10240×4320) @60Hz

Maximum resolutions on multiple screens with and without DSC

#### **Active Optical Cable (AOC)**



 $\label{lem:conductors} Active\ Optical\ Cables\ (AOC\ cable)\ feature\ fiber-optic\ and\ copper\ conductors.$  The cable is thinner, lighter and more flexible.

The AOC therfore is perfect for applications where space is limited and longer distances need to be covered. Normally, the maximum recommended distance is about 5 meters. With an AOC cable, it is possible to cover a length of 100 meters. This with resolutions of up to 8K@60Hz without signal loss. In terms of installation, this cable excels. It can be fitted with a Mini HDMI or Mini DP connector, including a pulling eye, making it much easier to route the cable through holes or conduits. A great solution to use for meeting rooms, classrooms, displays and more.





# **ALT** DisplayPort cable



Colour	Description	Resolution	0.5m	1m	2m	3m	5m
Black	DP male-DP male (Power Pin 20 connected)   1.2	4K@60Hz	<u>AK3977</u>	<u>AK3978</u>	<u>AK3980</u>	<u>AK3981</u>	<u>AK3982</u>
Black	DP male-DP male (Power Pin 20 not connected)   1.2	4K@60Hz	AK3975	<u>AK3976</u>	AK3983	<u>AK3984</u>	AK3986
Black	DP male-DisplayPort male   1.4	8K@60Hz		<u>AK4071</u>	AK4073	<u>AK4074</u>	
Black	DP male-DisplayPort male   1.4	8K@60Hz		<u>AC4071</u> *	<u>AC4073</u> *	<u>AC4074</u> *	

\*Gold-plated connectors with snap-in lock, retail packaged

# **ALT** DisplayPort, retail packed



Colour	Description	1m	2m	3m
Black	DisplayPort 1.2	<u>AC3900</u>	<u>AC3902</u>	AC3903
Black	DisplayPort 1.4 (8K)	<u>AC3910</u>		

## ALT DisplayPort converter / adapter / cable, retail packed



Displayroit converter / adapter / cable, retail packed								
Colour	Description	0.5m	1.8m					
Black	DP male-DVI female adapter	<u>AC7510</u>						
Black	DP male-DVI male cable		<u>AC7505</u>					
Black	DP male-DVI female adapter	<u>AC7510</u>						
Black	DP male-VGA female adapter	<u>AC7515</u>						
Black	Mini DP male-HDMI female cable	<u>AC7525</u>						
Black	DP male-HDMI male cable		<u>AC7550</u>					
Black	DP male-HDMI female adapter	<u>AC7555</u>						

# ALT DisplayPort converter / adapter / cable



Colour	Description	Resolution	Adapter	0.15m	0.5m	1m	1.8m	2m	3m	5m
Black	DP male-HDMI-A female	4K@60Hz	AB3985							
Black	DP male-HDMI-A female	4K@30Hz		AK3994						
Black	DP male-HDMI-A male	4K@30Hz			AK3987	AK3988	AK3990		AK3991	AK3992
Black	DP male-DVI female		AB3995							
Black	DP male-DVI female			AK3985						
Black	DP male-DVI male				AK3989	AK3993	AK3995		AK3997	<u>AK3998</u>
Black	DP male-VGA female			AK3996						
Black	DP male-VGA male							AK3999		

# **ALT** Mini DisplayPort adapter / cable



									-
Colour	Colour Description		0.15m	0.5m	1m	1.5m	2m	3m	5m
White	Mini DP male-HDMI-A female	1080@60Hz	<u>AK4000</u>						
White	Mini DP male-Mini DP male   1.2	4K@60Hz			<u>AK3959</u>	<u>AK3960</u>	<u>AK3961</u>	AK3962	<u>AK3969</u>
White	Mini DP male-Mini DP female   1.1	4K@30Hz			<u>AK3955</u>	<u>AK3956</u>		<u>AK3958</u>	
White	Mini DP male-DP male   1.2	4K@60Hz		AK3968	AK3963	AK3964	AK3965	AK3966	AK3967
White	Mini DP male-DVI-D female single link	1080@30Hz	AK4001						
White	Mini DP male-VGA female	1080@30Hz	<u>AK4002</u>						

# ALT Adapter mini DisplayPort | 1.2



Colour	Description	Resolution	Adapter
White	Mini DP male-DP female	4K@60Hz	<u>AB3996</u>
Black	Mini DP female-DP male	4K@60Hz	<u>AB3997</u>



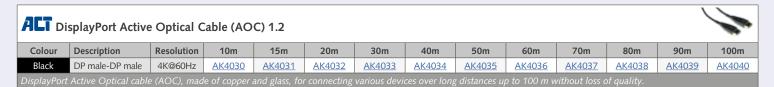
# Mini DisplayPort converter /adapter /cable, retail packed Colour Description 0.15m White Mini DP male-HDMI female AC7525

## DisplayPort AOC cables

An Active Optical Cable (AOC) features glass fiber and copper conductors, making the cable lighter and more flexible. AOC cables are perfect for installations where space is limited and longer distances need to be covered. While normally the recommended maximum distance is 5 meters, you can easily reach up to 100 meters with this type of cable without signal loss.

A good solution for use in meeting rooms, classrooms, displays and more. As for installation, we also offer AOC cables with a detachable plug for easy installation through electrical conduits and plenum areas.





ACT DisplayPort 1.4 Active Optical Cable (AOC) with detachable connector								
Colour	Description	Resolution	10m	15m	20m	25m	30m	
Black	DP male-DP male	8K@60Hz	<u>AK4150</u>	<u>AK4151</u>	AK4152	<u>AK4153</u>	AK4154	
DisplayPort Active Optical cable (AOC), with detachable connector for easy installation through tubes and plenum spaces.								

## HDMI Premium Certified/Ultra High Speed Certified

## **HDMI Premium Certified/Ultra High Speed Certified**

ACT offers HDMI cables officially certified by HDMI.org. These certified cables can be recognised by the 'HDMI Premium Certified' and 'HDMI Certified Cable Ultra High Speed' labels. Each certified HDMI cable has a special label that you can scan to view the certificate. When you use a certified cable, you can be sure of the highest quality.



# ALT HDMI High Speed Premium Certified cable | 2.0



								100	
Colour	Description	Resolution	0.5m	1m	1.5m	2m	3m	5m	6.10m
Black	HDMI-A male-HDMI-A male	4K@60Hz	AK3941	AK3942	AK3943	AK3944	AK3945	AK3946	AK3947

# **ALT** HDMI High Speed Premium Certified cable I 2.0, locking cable



Colour	Description	Resolution	1m	2m	3m	
Black	HDMI-A male-HDMI-A male, locking cable	4K@60Hz	<u>AK3861</u>	<u>AK3862</u>	<u>AK3863</u>	

# **ALT** HDMI 8K Ultra High Speed Ultra Certified cable



Colour	Description	Resolution	2m
Black	HDMI-A male-HDMI-A male, Ultra Certified cable	8K@60Hz	AK3916

# HDMI Premium AOC Active Optical Cable, Ultra High Speed Certified



Colour	Description	Resolution	5m	7.5m	10m	15m	20m	
Black	HDMI-A male-HDMI-A male	8K@60Hz	<u>AK4140</u>	<u>AK4141</u>	<u>AK4142</u>	<u>AK4143</u>	<u>AK4144</u>	

DMI Premium Active Optical Cable, made of copper and glass, for connecting various devices over long distances up to 100 m without loss of quality

HDMI version	1.0	1.1	1.2-1.2a	1.3-1.3a	1.4-1.4b	2.0-2.0b	2.1
	HDMI standard	HDMI standard	HDMI standard	HDMI standard	HDMI High speed with ethernet	HDMI High speed with ethernet	HDMI Ultra High Speed
SD-video	✓	✓	✓	<b>√</b>	✓	✓	✓
720p / 1080i	✓	✓	✓	✓	✓	✓	✓
1080p	✓	✓	✓	✓	✓	✓	<b>√</b>
Dolby Digital	✓	✓	✓	<b>√</b>	✓	✓	✓
DTS	✓	✓	✓	✓	✓	✓	<b>√</b>
8-canal-PCM, 192kHz / 24 bit	✓	✓	✓	✓	✓	✓	✓
Consumer Electronics Control ( CEC )	✓	✓	✓	<b>√</b>	✓	<b>√</b>	✓
DVD-audio	-	✓	✓	<b>√</b>	<b>√</b>	✓	<b>√</b>
SACD ( DSD )	-	-	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>
Deep color	-	-	-	✓	✓	✓	<b>√</b>
Enhanced colour Space	-	-	-	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>
Dolby True-HD	-	-	-	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>
DTS-HD Master Audio	-	-	-	<b>√</b>	✓	✓	<b>√</b>
Auto Lip-Sync	-	-	-	1	<b>√</b>	<b>√</b>	<b>√</b>
HDMI Mini connector ( Type-C )	-	-	-	<b>√</b>	✓	✓	<b>√</b>
3D (Frame Packing)	-	-	-	-	<b>√</b>	<b>√</b>	<b>√</b>
4K @ 24/30Hz	-	-	-	-	✓	✓	<b>√</b>
HDMI Micro Connector ( Type D )	-	-	-	-	<b>√</b>	<b>√</b>	<b>√</b>
Ethernet-channel ( 100 Mbit/s )	-	-	-	-	<b>√</b>	<b>√</b>	<b>√</b>
Audio Return Channel ( ARC )	-	-	-	-	./	<b>√</b>	<b>√</b>
Static HDR ( HDR10/HLG )	-	-	-	-	<u> </u>	<b>√</b>	<b>√</b>
Updated list of CEC commands ( CEC Extensions )	-	-	-	-	-	<b>√</b>	<b>√</b>
1080p @ 120Hz	-	-	-	-	-	<b>√</b>	1
4K @ 50/60Hz	-	-	-	-	-	<b>√</b>	<b>√</b>
4K @ 144Hz	-	-	-	-	-	-	1
8K	-	-	-	-	-	-	1
Dynamic HDR-format ( Dolby Vision )	-	-	-	-	-	-	<b>√</b>
Enhanced Audio Return Channel ( eARC )	-	-	-	-	-	-	· ✓
Variable Refreshrate ( VRR )	-	-	-	-	-	-	· /
Quick Media switch ( QMS )	-	-	-	-	_	-	· /
Quick Frame Transport (QFT)	-	-	-	-	-	-	· /
Automatic Low-latency-Mode ( ALLM )	-	-	-	-	_	-	· /
VESA DSC 1.2a	-	-	-	-	-	-	· /



#### ALT HDMI Ultra High Speed cable | 2.1 Colour Description Resolution 1.5m 1m 2m 3m Black HDMI-A male-HDMI-A male 8K@60Hz AK3907 AK3908 AK3909 AK3910 8K@60Hz Black HDMI-A male-HDMI-A male, retail packed AC3810 HDMI-A male-HDMI-A male 8K@60Hz Black AC3909\*

ACT HDMI High Speed cable I 2.0											20
Colour	Description	Resolution	0.5m	1m	1.5m	2m	2.5m	3m	5m	7m	10m
Black	HDMI-A male-HDMI-A male	4K@60Hz	<u>AK3900</u>	AK3901	AK3815	AK3902		AK3903	<u>AK3904</u>	<u>AK3905</u>	AK3906*
Black	HDMI-A male-HDMI-A male haaks	4K@60Hz	AK3675	AK3676		AK3678		AK3679			
Black	HDMI-A male-HDMI-A male, retail packed	4K@60Hz			AC3800		AC3802		AC3805		
* 4K@30Hz	* 4K@30Hz										

ACT HDMI High Speed cable RF Block   2.0									
Colour	Description	Resolution	0.5m	1m	2m	3m	5m		
Black	HDMI-A male-HDMI-A male	4K@60Hz	<u>AK3749</u>	<u>AK3755</u>	<u>AK3750</u>	<u>AK3751</u>	AK3752		

ACT HDMI High Speed cable I 1.4									
Colour	Description	Resolution	0.5m	1m	1.5m	2m	2.5 m	3m	5m
Black	HDMI-A male-HDMI-A male	4K@60Hz	AK3789	AK3790	AK3791	AK3792		<u>AK3793</u>	AK3818
Black	HDMI-A male-HDMI-D male	4K@60Hz				<u>AK3798</u>			

ACT H	DMI-A male to VGA female adap	ter, with audio
Colour	Description	0.15m
Black	HDMI-A male-VGA HD D-Sub female	<u>AC7535</u>

<b>ACT</b> HI	DMI adapter	
Colour	Description	Unshielded
Black	HDMI-A male-female flex	<u>AB3769</u>
Black	HDMI-A male-female angled, downwards	<u>AC7570</u>
Black	HDMI-A male-female downwards	<u>AB3771</u>
Black	HDMI-A female-female straight	<u>AP1005</u>

<b>АСТ</b> н	HDMI cable SLAC (super low attenuation cable)   1.4										
Colour	Description	Resolution	7m	10m	15m	20m					
Black	HDMI-A male-HDMI-A male	4K@30Hz	<u>AK3753</u>								
Black	HDMI-A male-HDMI-A male	4K@30Hz		AK3754	AK3756						
Blue	HDMI-A male-HDMI-A male	4K@30Hz				<u>AK3806</u>					



#### **HDMI AOC (Active Optical Cable)**

An Active Optical Cable (AOC) features fiber-optic and copper conductors, making the cable lighter and more flexible. AOC cables are perfect for installations where space is limited and longer distances need to be covered. While normally the recommended maximum distance is 5 meters, you can easily reach 100 meters with this type of cable without signal loss.

A good solution for use in meeting rooms, classrooms, displays and more. As for installation, we also offer AOC cables that come with a detachable connector and protector with pulling eye for easy installation through ducts and plenum spaces.





#### 

Active Optical HDMI cable, with detachable connector and protector with pulling eye for easy installation through pipes and plenum spaces. Includes USB power cable for optional

<b>АСТ</b> ні	DMI Active Optical Cable (A	1			
Colour	Description	Resolution	10m	15m	20m
Black	HDMI-A male-HDMI-A male   2.0	4K@60Hz	OHz <u>AK4117</u> <u>AK4118</u>		<u>AK4119</u>

ALT HDMI Premium Active Optical Cable (AOC)														
Colour	Description	Resolution	10m	15m	20m	25m	30m	40m	50m	60m	70m	80m	90m	100m
Black	HDMI-A male-HDMI-A male   2.0	4K@60Hz	AK3930	AK3931	AK3932	AK3929	AK3933	AK3934	AK3935	AK3936	AK3937	AK3938	AK3939	AK3940
Black	HDMI-A male-HDMI-A male   2.1	8K@60Hz	AK4120	AK4121	AK4122	AK4123	AK4124	AK4125	AK4126	AK4127	<u>AK4128</u>	AK4129	<u>AK4130</u>	AK4131
HDMI Prem	nium Active Optical Cable, made of	copper and s	glass, for c	onnecting	various de	vices over	long dista	nces up to	100 m wi	thout loss	of quality.			

ALT HDMI Premium Active Optical Cable (AOC), Ultra High Speed Certified							
Colour	Description	Resolution	5m	7.5m	10m	15m	20m
Black         HDMI-A male-HDMI-A male         8K@60Hz         AK4140         AK4141         AK4142         AK4143         AK4144							
HDMI Pren	nium Active Optical Cable, made o	f copper and g	lass, for connecting vari	ous devices over long dis	tances up to 100 m with	out loss of quality.	



Colour	Description	1m	1,8m	2m	3m	5m	10m	15m
Black	HDMI-A male-DVI-D male single link	AK3739		AK3740	AK3741	AK3742		
Black	DVI-A male-VGA male			AK3850				
vory	DVI-A male-VGA male		AK3650			AK3652	AK3654	

<b>АСТ</b> ні	DMI and DVI adapter			
Colour	Description	HQ Adapter fully shielded	SQ Adapter	2.0m
White	HDMI-A female-DVI-D 18+1 male single link	<u>AB3760</u>	<u>AP1004</u>	
White	HDMI-A male-DVI-D 24+5 female single link	<u>AB3765</u>	<u>AP1006</u>	
White	HDMI-A male-DVI-D female links	<u>AB3766</u>		
White	HDMI-A male-DVI-D			AC7520
White	DVI-I 24+5 female-DVI-I 24+5 female	<u>AB3730</u>		
White	DVI-I 24+5 female-DVI-D 18+1 male	<u>AB3740</u>	<u>AP1001</u>	
White	DVI-A 12+5 female-VGA female	<u>AB3750</u>	<u>AP1002</u>	
White	DVI-I 24+5 female-VGA male	<u>AB3755</u>	<u>AP1003</u>	

<b>ACT</b> DV	/I cable									No.
Colour	Description	0.5m	1m	1.5m	1.8m	2m	3m	5m	10m	15m
DVI-D cable, HQ										
Ivory	Dual link male-male					AK3630	AK3631	AK3632	AK3634	
Ivory	Single link male-male				AK3620		AK3621	AK3622	AK3624	
DVI-I cable	, HQ									
Ivory	Dual link male-male					AK3720	<u>AK3721</u>	AK3722	AK3724	
DVI-D cable	e, SQ									
Black	Dual link male-male	AK3829	AK3833	AK3834	AK3829	AK3830	AK3831	AK3832		
Black	Dual link male-female						AK3971			
Black	Single link male-male	AK3819	AK3823	AK3824		AK3820	AK3821	AK3822		
DVI-I cable	, sq									
Black	Dual link male-male			AK3953		AK3950				
DVI-D cable	e, SLAC (super low attenuation cable)									
Black	Single link male-male								AK3625	AK3626



# VGA cables - video adapter cables

<b>ACT</b> vo	GA cable											- 1	30
Colour	Description	0.25m	0.5m	1m	1.8m	3m	5m	7m	10m	15m	20m	25m	30m
RF-Block shielded hood													
Black	male-female				AK4220	AK4223	AK4225	AK4227	AK4229	AK4231	AK4233	AK4235	
Black	male-male		AK4250	AK4251	AK4260	AK4263	AK4265	AK4267	AK4269	AK4271	AK4273	AK4275	AK4277
Metal hood	I												
Black	male-female				AK9020	AK9023		AK9027		AK9031			AK9037
Black	male-male				AK9060	AK9063	AK9065	AK9067	AK9069	AK9071	AK9073	AK9075	AK9077
RF-Block sl	nielded hood, ultra high performa	ance											
VGA cable,	SQ												
Ivory	male-male				AK3225								
Black	male-male				AC3510								
Black	1x male-2x female, split cable	AK3187				AC3513							

<b>ACT</b> vo	GA + audio cable							Jan
Colour	Description	2m	3m	5m	7m	10m	15m	20m
Black	male-female	<u>AK4980</u>				AK4984		
Black	male-male	<u>AK4990</u>	<u>AK4991</u>	AK4992	<u>AK4993</u>	<u>AK4994</u>	<u>AK4995</u>	<u>AK4996</u>

#### Coax ALT Coax cable RG58/RG59 Colour Description 0.25m 0.5m 1m 1.5m 2m 3m 5m 7m 10m Black RG58 Q70025 Q70050 Q70100 Q70150 Q70200 Q70300 Q70500 Q70700 Q7010M Q7015M Black RG59 Q71025 Q71050 Q71150 Q71200 Q71300 Q71500 Q71700 Q7110M Q7115M







Description	HDMI Repeater via HDMI cable	HDMI extender set via UTP cable, max. 50m	HDMI extender set via UTP cable, max. 60m, with IR set	HDMI over IP Extender - set
Extension over	HDMI	CATx	CATx	CATx
Extension cable	HDMI	CAT6 (x1)	CAT6 (x1)	CAT6 (x1)
Extension connector	HDMI	RJ45	RJ45	RJ45
Extensie protocol	-	Own	Own	IP
4K Compatible	Yes	No	No	No
Max. resolution	3840 x 2160 @ 60 Hz	1920 x 1080 @ 60 Hz	1920 x 1080 @ 60 Hz	1920 x 1080 @ 60 Hz
Audio Pass-through	DTS-HD MA Dolby True-HD Dolby Digital	DTS-HD MA Dolby True-HD Dolby Digital	DTS-HD MA Dolby True-HD Dolby Digital	2.0 CH Stereo
Power	Bus powered	5V 1A	5V 1A	5V 1A
Included	-	Power adapter (x2)	Power adapter (x2) IR-RX cable, IR-TX cable	Power adapter (x2) IR-RX cable, IR-TX cable
Connections	HDMI	HDMI, RJ45	HDMI, RJ45, IR-RX, IR-TX	HDMI, RJ45
Connections in	HDMI female (x1)	HDMI female (x1)	HDMI female (x1)	HDMI female (x1) RJ45 female (x1)
Connections out	HDMI female (x1)	HDMI female (x1)	HDMI female (x1)	HDMI female (x1) RJ45 female (x1)
Max. extension distance	40m 1920x1080 @60Hz 25m 3820x2160 @60Hz	50 m	60 m	100 m
Video signal	HDMI	HDMI	HDMI	HDMI
Video support	EDID – CEC passthrough – HDCP 2.2 & 1.4 compliant	EDID	EDID	EDID
HDMI/ DisplayPort spec.	HDMI High Speed	HDMI High Speed	HDMI High Speed	HDMI High Speed





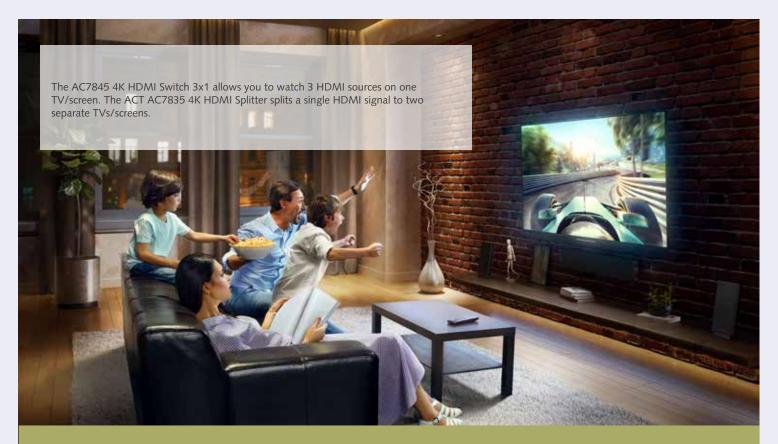
<u>AC7851</u>	<u>AC7870</u>	<u>AC7871</u>
HDMI over IP Receiver (for AC7850)	HDMI extender set via UTP cable, up to 100 meter	Receiver unit for AC7870
CATx	CATx	CATx
CAT6 (x1)	CAT5e (x1)	CAT5e (x1)
RJ45	RJ45	RJ45
IP	Own	Own
No	Yes	Yes
1920 x 1080 @ 60 Hz	3840 x 2160 @ 30 Hz	3840 x 2160 @ 30 Hz
2.0 CH Stereo	2.0 CH Stereo	2.0 CH Stereo
5V 1A	5.0V - 2.0A	5V 2A
Power adapter IR-RX cable	Power adapter (x2)	Power adapter
HDMI, RJ45	HDMI, RJ45	HDMI, RJ45
RJ45 female (x1)	HDMI A female (x1) RJ45 female (x1)	RJ45 female (x1)
HDMI female (x1)	HDMI A female (x1) RJ45 female (x1)	HDMI A female (x1) RJ45 female (x2)
100 m	100 m	100 m
HDMI	HDMI	HDMI
EDID	EDID, HDCP 1.4	EDID, HDCP 1.4
HDMI High Speed	HDMI High speed	HDMI High speed





Туре по.	<u>AC7900</u>	<u>AC7910</u>	<u>AC7830</u>	<u>AC7840</u>
Description	KVM Switch DisplayPort cable	KVM Switch HDMI cable	HDMI Splitter via HDMI cable	5x1 HDMI Switch
4K Compatible	Yes	Yes	Yes	Yes
Max. resolution	4096 x 2160 @ 30Hz/60Hz	4096 x 2160 @ 30Hz/60Hz	3840 x 2160 @ 30 Hz	3840 x 2160 @ 30 Hz
3D support	-	-	1080p @ 30/60 Hz	1080p @ 60 Hz
Audio Passthrough	Analogue audio	Analogue audio	DTS-HD MA, Dolby True-HD, Dolby Digital	DTS-HD MA, Dolby True-HD, Dolby Digital
Power	Bus powered	Bus powered	5V 1A	5V 1A
Included	-	-	Power adapter	Power adapter remote control
Connections in	USB A male (x2), 3,5 mm jack male (x4), DisplayPort male (x2)	3,5 mm jack male (x4), HDMI A (full-size) male (x2), USB A male (x2)	HDMI female (x1)	HDMI female (x5)
Connections out	3,5 mm jack female (x2), USB A female (x2), DisplayPort female (x1)	3,5 mm jack female (x2), USB A female (x2), HDMI A (full-size) female (x1)	HDMI female (x4)	HDMI female (x1)
Video signal	DisplayPort	HDMI	HDMI	HDMI
Video support	-	-	EDID, HDCP 1.4	EDID – CEC passthrough - HDCP 1.4
HDMI/DisplayPort specification	DisplayPort 1.2	HDMI High Speed	HDMI High Speed	HDMI High Speed
Control method	Hot-key, Software, Remote contol (wired)	Hot-key, Software, Remote control (wired)	-	-





Type no.	<u>AC7845</u>	<u>AC7835</u>

Description	4K HDMI Switch 3x1	4K HDMI Splitter 1x2
Connections (in)	HDMI A (full-size) female (x3)	HDMI A (full-size) female (x1)
Connections (out)	HDMI A (full-size) female (x1)	HDMI A (full-size) female (x2)
4K Compatible	Yes	Yes
Max. resolution @ 30Hz	3840 x 2160	3840 x 2160
Max. resolution @ 60Hz	1080р	1080р
Video signal	HDMI	HDMI
Supported functions	EDID, HDCP 1.4	EDID, HDCP 1.4
HDMI specifications	HDMI High Speed	HDMI High Speed
Other signals	HD audio, IR	HD audio
Power	USB powered	USB powered
Included	Remote control + battery, IR-RX cable, USB power cable	USB power cable



ACT's professional audio cable range consists of:

- Microphone cables
- DMX cables
- Standard audio cables
- $\bullet$  High-quality transparent oxygen-free copper cable with gold-plated connectors







## ALT High quality audio cable, retail packed

m	15m					

								-
Colour	Description	0.15m	1.5m	2m	3m	5m	10m	15m
Black	3.5mm stereo jack male - 2x RCA male		AC3605			AC3607		
Black	3.5mm stereo jack male - male		AC3610		<u>AC3611</u>	AC3612	<u>AC3613</u>	<u>AC3614</u>
Black	3.5mm stereo jack male - female			AC3615		AC3617		
Black	2x RCA male - 2x RCA male		AC3601					
Black	3.5mm split cable male- 2x female	AC3620						

# **ALT** Audio cable



Colour	Description	0.15m	1.5m	2.5m	3m	5m
Black	3.5mm stereo jack male - male		<u>AK2035</u>	<u>AK2036</u>		<u>AK2037</u>
Black	3.5mm stereo jack male - female				AK2030	<u>AK2031</u>
Black	1x 3.5mm stereo jack male - 2x RCA female	AK2026				
Black	1x 3.5mm stereo jack female - 2x RCA male	AK2027				

# **ALT** High quality audio cable



Colour	Description	2m	3m	5m	10m
White	3.5mm stereo jack male - male			<u>AK2244</u>	<u>AK2246</u>
White	3.5mm stereo jack male - female	<u>AK2250</u>	<u>AK2252</u>	<u>AK2254</u>	<u>AK2256</u>
White	Audio video 1x tulp male - male	<u>AK2270</u>	<u>AK2272</u>		
White	Audio 2x tulp male - male	<u>AK2220</u>			

# **ALT** TOSlink optical audio connection cable



		207001
Colour	Description	1.20m
Black	SPDIF optical audio TOS to TOS	AC3690

# ALT USB-C male - 3.5mm audio jack female PD-passthrough, retail packaging





Colour	Description	Cable length	Type no.
Aluminiur	USB-C male - 3.5mm audio jack female PD-passthrough 65W	15cm	<u>AC7005</u>

# ALT USB-C naar 3.5mm jack audio adapter



			100
Colour	Description	Cable length	Туре по.
Aluminium	3.5mm jack to USB-C	11cm	<u>AC7380</u>



Power cords supply your equipment with power. ACT offers a wide and broad range of power cords. All these cables stand for excellent performance (quality) and sustainability.

#### Types

ACT supplies several kinds of power cords: CEE7/7, IEC60320 C5, C7, C13, C14, C15, C19, C20, IEC60309 CEE1. ACT also provides in different kinds of power split cables.

#### Power cords in various colours.

Besides the traditional black power cords, we supply the IEC60320 C13, C14, C19 en C20 cables in different colours. The various colours ensure a clear installation.

#### ACT offers a wide range of high-quality power cords:

- 230 V power cords
- Euro power cords
- IEC 60320 power cords
- 230 V splitter cables







Male	Female	Form	Max. power	Max. temp.
C6	C5	<b>A</b>	2.5 A	70 °C
C8	C7	00	2.5 A	70 °C
C14	C13		10 A	70 °C
C16	C15		10 A	120 °C
C20	C19		16 A	70 °C
C22	C21		16 A	155 °C
CEE1			16 A	
CEE7/7			16 A	

Colour	Description	0.25m	0.5m	0.6m	1m	1.2m	1.5m	1.8m	2m	2.5m	3m	4m	5m	7m	10m
Ivory	CEE 7/7 male - C13						AK5013			AK5009					
Black	CEE 7/7 male - C13						AK5014			AK5017					
Black	CEE 7/7 male angled - C13	AK5253	AK5145		AK5146		AK5012		AK5015	AK5010	AK5124	AK5125	AK5016	AK5126	AK512
White	CEE 7/7 male angled - C13		AK5401		AK5402		AK5235		AK5236	AK5237	AK5238		AK5239		
Black	CEE 7/7 male angled - C13, retail packed								AC3305						
Black	CEE 7/7 male angled - C13 angled								AK5018						
Red	CEE 7/7 male angled - C13			AK5128		AK5129		AK5130			AK5131		AK5403		
Blue	CEE 7/7 male angled - C13			AK5132		AK5133		AK5134			AK5135		AK5404		
Green	CEE 7/7 male angled - C13			AK5136		AK5137		AK5138			AK5139		AK5405		
Yellow	CEE 7/7 male angled - C13			AK5140		AK5141		AK5142			AK5143		AK5406		
Black	CEE 7/7 male angled - C15				AK5312		AK5001		AK5313						
Red	CEE 7/7 male angled - C15				AK5314		AK5284		AK5315						
Blue	CEE 7/7 male angled - C15				AK5316		AK5295		AK5317						
Green	CEE 7/7 male angled - C15				AK5318		AK5296		AK5319						
Yellow	CEE 7/7 male angled - C15				AK5320		AK5297		AK5321						
Black	CEE 7/7 male angled - C5, retail packed								AC3310						
Black	CEE 7/7 male angled - C5		AK5407		AK5162		AK5408		AK5144		AK5024		AK5163	AK5188	AK518
Black	CEE 7/7 male angled - C5 angled				AK5409			AK5005			AK5006		AK5007		
Black	CEE 7/7 male straight - C19		AK5410		AK5147		AK5411		AK5412		AK5022		AK5148		
Red	CEE 7/7 male angled - C19			AK5167		AK5168		AK5169			AK5170				
Blue	CEE 7/7 male angled - C19			AK5171		AK5172		AK5173			AK5174				
Green	CEE 7/7 male angled - C19			AK5175		AK5176		AK5177			AK5178				
Yellow	CEE 7/7 male angled - C19			AK5179		AK5180		AK5181			AK5182				
Black	CEE 7/7 male angled - C19			AK5183		AK5184		AK5185			AK5186				
White	CEE 7/7 male angled - C19			AK5413		AK5414		AK5415			AK5416				
Black	CEE 7/7 male angled - CEE 7/7 female											AC247	0 10 met	er Retail	nacked

# Power cords



# **ALT** 230 V power cords LSZH



Colour	Description	1m	1.5m	2m	2.5m	5m
Black	CEE 7/7 male angled - C13	AK5209	<u>AK5210</u>	AK5211	AK5212	AK5213

ACT Euro power cords								
Colour	Description	0.25m	1m	1.5m	2m	3m	5m	
Black	Euro male - C7 female in retail packed			AC3300				
Black	Euro male - C7 female	AK5279	AK5417	AK5020	AK5418	AK5242	AK5419	
White	Euro male - C7 female			AK5240		AK5241		
Black	Euro male - C7 female (down angled)				AK5008			
Black	Euro male - C7 female (left/right angled)		AK5420		AK5019	AK5421		

Colour	Description	0.25m	0.3m	0.5m	0.6m	0.9m	1m	1.2m	1.8m	2m	2.5m	3m	4m	5m	7m	10m
Black	C13-C14, retail packed								AC3315							
Black	C13-C14		AK5164		AK5029	AK5165		AK5120	AK5030			AK5031	AK5149	AK5032	AK5121	AK5122
White	C13-C14		AK5422		AK5243			AK5244	AK5245			AK5427		AK5428		
Red	C13-C14		AK5423		AK5104			AK5105	AK5106			AK5107		AK5429		
Blue	C13-C14		AK5424		AK5108			AK5109	AK5110			AK5111		AK5430		
Green	C13-C14		AK5425		AK5112			AK5113	AK5114			AK5115		AK5431		
<b>Yellow</b>	C13-C14		AK5426		AK5116			AK5117	AK5118			AK5119		AK5432		
Black	C13 - C20						<u>AK5440</u>			AK5026						
Black	C19 - C20				AK5085			AK5086		AK5023		AK5087				
Red	C19 - C20				AK5088			AK5089	AK5090			AK5091				
Blue	C19 - C20				AK5092			AK5093	AK5094			AK5095				
Green	C19 - C20				AK5096			AK5097	AK5098			AK5099				
/ellow	C19 - C20				AK5100			<u>AK5101</u>	AK5102			AK5103				
Black	CEE1 - C19										AK5021					
Black	C14 - C5	AK5252		AK5218			<u>AK5433</u>			AK5028		AK5434				
Black	C14 - C15				AK5232			AK5233		AK5003	AK5234					
White	C14 - C15				AK5435			AK5436		AK5437						
Red	C14 - C15				AK5298			AK5304		AK5308						
Blue	C14 - C15				AK5299			AK5305		AK5309						
Green	C14 - C15				AK5302			AK5306		AK5310						
<b>Yellow</b>	C14 - C15				AK5303			AK5307		AK5311						
Black	C14-C19			AK5438			AK5439			AK5025						
Black	C14 - Type F female (max.10 A)				AK5219											

ACT 2	30 V short power cords	
Colour	Description	0.2m
Black	Euro Extension	<u>AK5246</u>
Black	C6 - C13	<u>AK5247</u>
Black	C14 - C7	<u>AK5248</u>
Black	C6 - C7	<u>AK5249</u>
Black	C14 - CEE7/3	<u>AK5250</u>
Black	C20 - CEE7/3	<u>AK5251</u>

ALT IEC 60320 cable LSZH					100
Colour	Description	1.2m	1.8m	3m	5m
Black	C13-C14	<u>AK5214</u>	<u>AK5215</u>	<u>AK5216</u>	<u>AK5217</u>



# **ALT** 230 V Split cable



Colour	Description	1m	1.2m	1.8m
Black	CEE 7/7 male - 2x C13	<u>AK5050</u>	<u>AK5055</u>	
Black	CEE 7/7 male - C5+C13			<u>AK5166</u>
Black	CEE 7/7 male - 2x C5			<u>AK5208</u>
Black	C14 - 2x C13			<u>AK5052</u>

# ALT 230 V UK power cord



Colour	Description	1m	1.8m	2.5m
Black	UK power connector - C5		<u>AK5072</u>	
Black	UK power connector - C7		<u>AK5070</u>	
Black	UK power connector - C13	AK5441	AK5442	AK5060

# **ALT** 120 V USA power cord

Black	USA power connector - C5		<u>AK5076</u>	
Black	USA power connector - C7		<u>AK5074</u>	
Black	USA power connector - C13	<u>AK5443</u>	<u>AK5444</u>	<u>AK5062</u>
Black	USA power connector - C19		AK5445	

# **ALT** 230 V international power cord

Black	Danish power cord - C13		<u>AK5064</u>
Black	Italian power cord - C13	<u>AK5446</u>	<u>AK5066</u>
Black	Swiss power cord - C13		<u>AK5068</u>
Black	India/SA-C13		AK5447

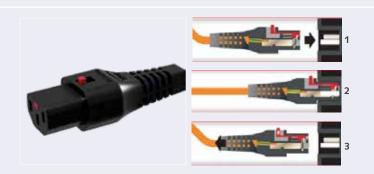
Туре по.	<u>AC2450</u>	<u>AC2455</u>	<u>AC2460</u>	<u>AC2470</u>
		· · · · · · · · · · · · · · · · · · ·		
Description	Power strip with surge protection 6x	Power strip 5x	Power strip 6x	Power cord extension cable
Input connector	CEE 7/7 angled male	CEE 7/7 angled male	CEE 7/7 angled male	CEE 7/7 angled male (x1)
Socket type	Type F female	Type F female	Type F female	Type F female
Cable type	H05VV-F3G 1.5	H05VV-F3G 1.5	H05VV-F3G 1.5	-
Max. load	230V AC / 16 A	230V AC / 16 A	250V AC / 16 A	230 V AC / 16 A
Number of sockets	6	5	6	1
Cable length (m)	1.5	1.5	3	AC2470: 10 m
Switch	Illuminated switch	Illuminated switch	-	-
Surge protection	Yes	-	-	-
Child-friendly	Yes	Yes	Yes	Yes
Extra	Sockets with 45-degree angle Suitable for wall and desk mounting	Flat plug: Position your furniture closer to the wall.	Sockets with a 45-degree angle	-
Colour	Black	White	Black	Black



## Lockable power cords IEC Lock

## Lockable power cords, how does it work?

- 1 Plug the connector into the standard IEC inlet so it is locked in the correct position.
- 2 The connector cannot accidentally vibrate out of the socket.
- 3 Slide the red tab back to release the connector and remove it from the socket.



# **ALT** 230V Lockable power cords



Colour	Description	0.5m	1m	1.5m	2m	3m	4m	5m
Black	C13 lockable - CEE 7/7 male angled		AK5057		AK5040	AK5041		AK5220
Orange	C13 lockable - CEE 7/7 male angled				AK5039			
Black	C19 lockable - CEE 7/7 male angled				AK5043			
Black	C13 lockable - C14	AK5190	AK5033	<u>AK5191</u>	AK5034	AK5035		
Red	C13 lockable - C14	<u>AK5192</u>	<u>AK5193</u>	<u>AK5194</u>	<u>AK5195</u>	<u>AK5196</u>		
Blue	C13 lockable - C14	<u>AK5197</u>	<u>AK5198</u>	<u>AK5199</u>	<u>AK5200</u>	<u>AK5201</u>		
Orange	C13 lockable - C14		<u>AK5036</u>		AK5037	AK5038		
Black	C19 lockable - C20		AK5044		AK5045	AK5046		
Red	C19 lockable - C20		AK5202		AK5203	AK5204		
Blue	C19 lockable - C20		AK5205		AK5206	AK5207		
Black	C13 lockable - open end				<u>AK5080</u>	AK5082	AK5084	
Orange	C13 lockable - open end					AK5083		
Black			AK5047		AK5048	AK5049		

# **ALT** International IEC Lock power cords



Colour	Description	2m
Black	C13 lockable - UK plug 230 V	<u>AK5059</u>
Black	C19 lockable - UK plug 230V	<u>AK5061</u>
Black	C13 lockable - USA plug 120V	AK5063

POWER

## Lockable power cords IEC Lock+

## What are IEC Lock+ power cables?

IEC Lock+ is further developed from IEC Lock and has a pull-out release clip. With this release clip it is easier to unlock connectors that are closely placed together. The IEC Lock+ range consists of cables with left, right, top or lower cable output.





# **ALT** 230V IEC Lock+ power cords



Colour	Description	0.5m	1m	2m	3m
Black	CEE 7/7 - C13 IEC LOCK+		<u>AK5150</u>	<u>AK5151</u>	
Black	CEE7/7-C13 IEC LOCK+ down angled		<u>AK5255</u>	<u>AK5256</u>	<u>AK5257</u>
Black	CEE7/7-C13 IEC LOCK+ left angled		<u>AK5258</u>	<u>AK5259</u>	<u>AK5260</u>
Black	CEE7/7-C13 IEC LOCK+ right angled		<u>AK5261</u>	<u>AK5262</u>	<u>AK5263</u>
Black	CEE7/7-C13 IEC LOCK+ up angled		<u>AK5264</u>	<u>AK5265</u>	<u>AK5266</u>
Black	C13 - C14 IEC LOCK+	<u>AK5153</u>	<u>AK5154</u>	<u>AK5156</u>	<u>AK5158</u>
Black	C14 - C13 IEC LOCK+ down angled		<u>AK5267</u>	<u>AK5268</u>	<u>AK5269</u>
Black	C14 - C13 IEC LOCK+ left angled		<u>AK5270</u>	<u>AK5271</u>	<u>AK5272</u>
Black	C14 - C13 IEC LOCK+ right angled		<u>AK5273</u>	<u>AK5274</u>	<u>AK5275</u>
Black	C14 - C13 IEC LOCK+ up angled		<u>AK5276</u>	<u>AK5277</u>	<u>AK5278</u>

# Lockable power cords IECLock+



ACT 2	ACT 230 V power distribution unit				
Colour	Description	3m			
Black	8x IEC 60320 C13 lock	RN3022			

ACT 2	30V IEC Lock+ connectors	
Colour	Description	3m
Black	C13, lockable	<u>SFO65</u>
Black	C13, lockable, right/ left angled	SFO66A
Black	C13, lockable, up / down angled	SFO67A

ACT 230V Net-entrees IEC Lock					
Colour	Description	1 outlet	4 outlets	6 outlets	
Black	C13, lockable, IEC Lock+	STF70	<u>STF074</u>	<u>STF076</u>	
Black	C19, lockable, IEC Lock+	STF72			
Black	C19, lockable, IEC Lock+	STF72			

# Socket locker

ACT so	ocket locker	
Colour	Description	Type no.
Black	C13	STF10
Black	C19	STF11

ACT 230V Dual IEC Lock+ power cord							
Colour	Description	0.5m	1m	1.5m	2m	3m	
Black	Power cord C13 - C14 Dual IEC Lock+	AK5501	AK5502	AK5503	AK5504	AK5505	
White	Power cord C13 - C14 Dual IEC Lock+	AK5506	AK5507	AK5508	AK5509	AK5510	
Red	Power cord C13 - C14 Dual IEC Lock+	AK5511	AK5512	AK5513	AK5514	AK5515	
Blue	Power cord C13 - C14 Dual IEC Lock+	<u>AK5516</u>	<u>AK5517</u>	<u>AK5518</u>	<u>AK5519</u>	<u>AK5520</u>	

ACT 230V IEC Lock power cord, open end						
Colour	Description	1m	2m	3m		
Black	C13 IEC Lock (down angled) - open end	<u>AK5281</u>	<u>AK5282</u>	<u>AK5283</u>		
Black	C13 IEC Lock (left angled) - open end	<u>AK5286</u>	<u>AK5287</u>	<u>AK5288</u>		
Black	C13 IEC Lock (right angled) - open end	<u>AK5289</u>	<u>AK5290</u>	<u>AK5291</u>		
Black	C13 IEC Lock (up angled) - open end	<u>AK5292</u>	AK5293	AK5294		



# Cubical power sockets / USB-chargers

Type no.	<u>AC2415</u>	<u>AC2435</u>		
Description	Cubical power socket 3x including 2x USB-C and 2x USB-A	Cubical power socket 3x including 2x USB-C and 2x USB-A (Belgium)		
Input connector	CEE 7/7 male	CEE 7/7 male		
Socket type	Type F female	Type E female		
Cable type	H05VV-F3G 1.5	H05VV-F3G 1.5		
Max. load	230V AC / 16 A	230V AC / 16 A		
Number of sockets	3	3		
USB-ports	2x USB A, 2x USB C	2x USB A, 2x USB C		
USB-output	3.4 A	3.4 A		
Cable length	1.5	1.5		
Switching	Illuminated switch	Illuminated switch		
Surge protection	Yes	Yes		
Child-friendly	Yes	Yes		
Extra	Mounting pad to ensure the Power Block stays in place	Mounting pad to ensure the Power Block stays in place		
Colour	White	White		

Туре по.	AC2100	AC2120	AC2130	<u>AC2105</u>
	- 8			
Description	Compact USB-C Charger 20W with PD	Compact USB-C Charger 20W with PD	Compact USB-C Charger 33W with PD and GaNFast	USB charger USB-A, 1-port, 1A, 5W
USB-C	JSB-C Yes		Yes	No
Number of ports	1	1	1	1
Input voltage	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
Output voltage/amperage	5.0V / 3.0A 9.0V / 2.22A 12.0V / 1.67A	5.0V / 3.0A 9.0V / 2.22A 12.0V / 1.67A	5.0V / 3.0A 9.0V / 3.0A 12.0V / 2.5A 15.0V / 2.0A 20.0V / 1.67A	5.0V / 1.0A
Max. PD power	20 W	20 W	33 W	5 W
Fast charging	Yes	Yes Yes		No
Power Delivery	Yes	Yes	Yes	-
Colour	White	White	White	White
Cable length (m)	-	-		-
Extra	Designed for next generation iPhones and Android devices	Designed for next generation iPhones and Android devices	GaNFast technology Charges the next generation iPhones and Android devices	-

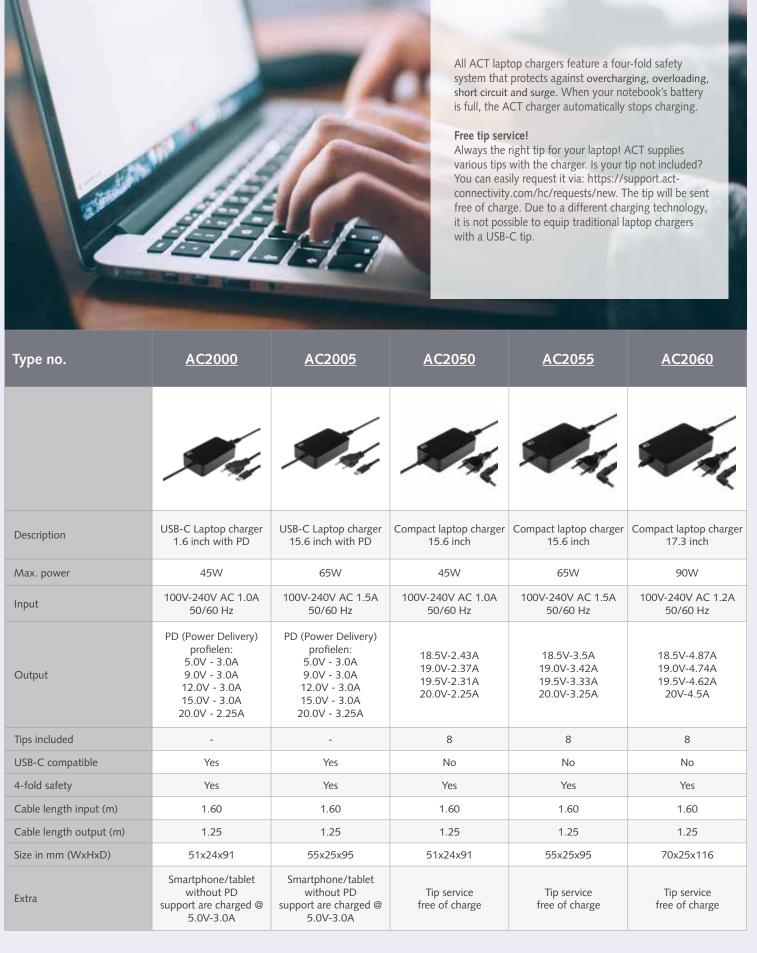


<u>AC2405</u> / <u>AC2410</u>	<u>AC2400</u>	<u>AC2430</u>		
Cubical power socket 3x including 3 USB-A	Cubical power socket 3x including 3 USB-A	Cubical power socket 3x including 3 USB-A (Belgium)		
CEE 7/7 male	CEE 7/7 male	CEE 7/7 male		
Type F female	Type F female	Type E female		
H05VV-F3G 1.5	H05VV-F3G 1.5	H05VV-F3G 1.5		
230V AC / 16 A	230V AC / 16 A	230V AC / 16 A		
3	3	3		
3	3	3		
2.4 A	2.4 A	2.4 A		
1.5 : AC2405 3.0 : AC2410	1.5	1.5		
Illuminated switch	Illuminated switch	Illuminated switch		
Yes	Yes	Yes		
Yes	Yes	Yes		
Mounting pad to ensure the Power Block stays in place	Mounting pad to ensure the Power Block stays in place	Mounting pad to ensure the Power Block stays in place		
White	Black	White		

AC2110 AC2115		AC2125	AC2200	AC9010	
8					
USB Charger USB-A 1-port, 2.4A, 12W	USB Charger USB-A 2-ports, 2.4A, 12W, Smart IC	USB Charger USB-A 2-ports 30W with 1 Quick Charge 3.0 port	USB-C Fast Charger Car Charger, 2-ports, 45W with PD	Automatic smartphone car mount with wireless charging	
No	No	No	Yes	Yes	
1	2	2	2	Wireless charging (Qi)	
100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	12 - 24 V DC	5V 2A, 9V 1.67A (snelladen)	
5.0V / 2.4A	5.0V / 2.4A	5.0V / 3.0A 9.0V / 2.0A 12.0V / 1.5A	5.0V / 3.0A 9.0V / 2.77A 12.0V / 2.22A	5V 1.5A, 9V 1.2A	
12 W	12 W	30 W	45 W	10 W	
No	Yes	Yes	Yes	Yes	
-	-	-	Yes	-	
White	White	White	Black	Black	
	-	-	-	1.2	
-	Smart IC charging system: automatic self-output power adjustment	-	Designed for next generation iPhones and Android devices	USB-C to USB-A cable	







## USB-C: one cable for all applications?

You can use a cable with USB-C connector for every purpose (data/video/power), right? Unfortunately, nothing could be further from the truth.

The quality and functionality of one USB-C cable can be completely different from another USB-C cable. This is hardly noticeable from the outside of the cable

#### USB, a short introduction9

#### Old generation: USB 1.0 and USB 2.0

USB 1.0 and USB 2.0 are the old generation. Up to here it is still easy to follow.

#### USB generations as from USB 3.0

Things are getting more complicated and confusing from USB 3.0 onwards. Did you know that USB 3.1 Gen1 and USB 3.2 Gen1 are actually the same as USB 3.0? They all have a maximum speed of 5Gbps.

Many people associate USB 3.2/USB 3.1 directly with USB-C. The main reason for this is that USB 3.1 (nowadays called USB 3.2) was released at the same time as the USB-C standard.

#### **USB 3.2**

USB 3.2 has three versions: USB 3.2 Gen1, USB 3.2 Gen2 and USB 3.2 Gen2x2. Gen1 has a maximum speed of 5Gbps, Gen2 a maximum speed of 10Gbps and Gen2x2 a maximum speed of 20Gbps. USB 3.2 Gen1 is the same as USB 3.1 Gen1, USB 3.0 or SuperSpeed. SuperSpeed+ is the name of USB 3.2 Gen2 and USB 3.1 Gen2.

- USB 3.2 Gen1: originally known as USB 3.0. Previously named as USB 3.1 Gen1. It is the original USB 3.0 specification with a transfer speed up to 5Gbps.
- USB 3.2 Gen2: previously known as USB 3.1. Later known as USB 3.1
   Gen2. This generation offers speed up to 10Gbps.
- USB 3.2 Gen2x2: provides a transfer speed up to 20Gbps (By using two lanes of 10Gbps at the same time. Therefore this generation is called Gen2x2 instead of Gen3).

#### **USB-C** causes confusion

USB 3.1/USB 3.2 is the same as USB-C, right? The main reason people think that USB 3.1 and USB 3.2 are the same as USB-C, is because they were released at the same time. Did you know that even USB 2.0 cables can have a USB-C connector? These cables still have the throughput speed of the USB 2.0 specification.

All generations have a corresponding (marketing) name. Unfortunately, these names are likely to change at any time. The confusion is real. We'll get that! In many cases USB-C is the right solution. Nevertheless, problems still can occur. Especially if manufacturers of peripherals and cables don't comply to the correct specifications. Devices can collide and cause faults.

#### USB4®

USB4® is the most recent version of USB. It supports a data speed up to 40Gbps. Additionally, USB4 2.0 is recently released with a maximum speed of 80Gbps.

USB4® 40Gbps is using the Thunderbolt™3 protocol. For the best performance, Thunderbolt™4 is the most excellent option. E.g. Thunderbolt™3 requires also a laptop with Thunderbolt™3 support. The requirements of the peripherals are higher as well.

USB4® 40Gbps supports the DisplayPort Alternate Mode (DP Alt Mode) protocol: one 8K @ 60Hz monitor or two 4K @ 60Hz monitors in the daisy chaining setup.



Version	Name	Other name	Current	Voltage	Power	Bandbreedte
USB 1.0	LowSpeed		0.15A	5V	0.75W	1,5 Mbit/s
USB 1.1	FullSpeed	Universal	0.15A	5V	0.75W	12 Mbit/s
USB 2.0	Highspeed	Enhanced	0.5A	5V	2.5W	480 Mbit/s
			2A	5V	10W	5 Gbit/s
USB 3.2 Gen1	Superspeed 5Gbps	USB 3.0 USB 3.1 Gen1	3A	9V	27W	
Geni	30000	03b 3.1 Gen1	3A	12V	36W	
			2A	5V	10W	
			3A	9V	27W	
USB 3.2 Gen2	Superspeed 10Gbps	USB 3.1 USB 3.1 Gen2	3A	12V	36W	10 Gbit/s
GCIIZ	тосырѕ	03b 3.1 Genz	3A	15V	45W	
			5A	20V	100W	
	SuperSpeed 20Gbps		2A	5V	10W	20 Gbit/s
			3A	9V	27W	
			3A	12V	36W	
USB 3.2		USB 3.2	3A	15V	45W	
Gen2x2		U3D 3.2	5A	20V	100W	
			5A	28V	140W	
			5A	36V	180W	
			5A	48V	240W	
	SuperSpeed 20Gbps or 40Gbps		2A	5V	10W	
			3A	9V	27W	
			3A	12V	36W	20 Gbit/s
USB4		USB4	3A	15V	45W	or 40 Gbit/s
USB4			5A	20V	100W	40 0011/5
			5A	28V	140W	
			5A	36V	180W	
			5A	48V	240W	

#### Advantages of USB-C

- Compact reversible connector
- Charge faster and safer with Power Delivery (PD)
- Support for video using DisplayPort Alternate Mode
- One cable for data, video and power

#### Compact reversible connector

Are you also struggling while connecting a USB-A plug to your computer or charger? Regardless the side you pick first, you always try the wrong side. The struggle is real!

With the USB-C connector this struggle belongs to the past as it doesn't have a top or bottom side. The USB-C connector can be plugged either way into your device. The other big advantage of this connector is its compact size. This makes new laptops, smartphones and other devices with USB-C smaller and more light-weight.

#### Charge faster and safer with Power Delivery

USB-C cables and devices can support the Power Delivery (PD) charging protocol. This protocol enables a device to charge up to 70% faster than by using a normal charger. The charger, cable and the connected device must support Power Delivery.

#### PD profiles

The e-marker in the cable communicates with the charger and the connected device to determine the best Power Delivery profile. When connecting a USB-C accessory with PD support in between the charger and the device, the e-marker in the cable communicates with the USB-C accessory, the charger and the device.

Did you know that you can charge your USB-C smartphone with your USB-C tablet and vice versa? Power Delivery and USB-C enables bi-directional charging. This needs to be supported by both devices. The available Power Delivery profiles are: 5V, 9V, 12V, 15V and 20V.

#### EPR technology: >100W

The USB Implementers Forum has implemented additional Power Delivery profiles: 28V, 36V and 48V. This is called Extended Power Range. Also known as EPR.

## What to keep in mind when using a USB-C cable?

These additional profiles increase the maximum amount of power that a USB-C cable can handle to 240W. In most cases this amount of power is not needed. However, e.g. gaming laptops require more power than 100W. With the release of USB4®, more Power Delivery profiles are introduced within EPR: 28V, 36V and 48V. With 48V @ max. 5A, a maximum of 240W can be transferred through a cable. USB-C cables that use SPR (Standard Power Range) only can deliver 60W.

Please keep in mind that all devices need to support EPR in order to reach a maximum of 240W.



#### Why is it important to know if your cable has an E-marker?

Some USB-C cables have an E-marker (electronic marker). This is an integrated chip that communicates with all connected devices. This integrated chip includes all cable characteristics, e.g. manufacturer, maximum supported power, video support etc. All cables that support more than 60W power require an E-marker.

In order to keep the usage of a USB-C cable safe and reliable, when the USB-C cable is used for powering devices, it is very important to know if the cable has an e-marker.

If your laptop needs 100W and the charger supplies 100W, the USB-C cable needs to be able to handle 100W as well. If this cable doesn't have an e-marker, the laptop communicates with the charger to lower the power throughput to 60W. All ACT USB-C cables can handle at least 20V @ 3A = 60W. Did you know that we even have USB-C cables that can handle up to 240W? Check our cable specifications for the ACT USB-C cables that are equipped with an e-marker.

Please keep in mind that USB-C cables of bad quality can't handle a power throughput of 60W and will have the risk to burn out.

## Support for video via DisplayPort Alternate Mode

USB-C supports the DisplayPort Alternate Mode protocol. 4K videos can be transferred simultaneously with data and power. A USB4® 40Gbps cable supports 1x 8K @ 60Hz or 2x 4K @ 60Hz. The technology of the DisplayPort Alternate Mode protocol makes it possible to connect computers and monitors by using the USB-C port. When using a USB-C video adapter, one is able to connect it to monitors and screens without a USB-C connection. See the section below about USB-C video adapters.

#### Thunderbolt™: One cable for data, video and power

USB-C and Thunderbolt™ are inseparably linked to each other. But they are not the same. Confusing? Yes! Can we make it easier for you to understand? We'll try!

- Thunderbolt<sup>™</sup>4 supports Thunderbolt<sup>™</sup>3 and USB4®
- USB4® supports Thunderbolt™3 by default

Did you know that ACT has a USB4® cable with Thunderbolt™3 and 4 support?

#### Thunderbolt™3

The biggest advantage of Thunderbolt™ 3 is the throughput speed up to 40Gbps. This is four times faster than the throughput speed of USB 3.2 Gen2: 10Gbps. Besides, Thunderbolt™ 3 can provide power and video to two 4K screens of max. 60Hz. All used peripherals, e.g. laptop, screens and cables, must support Thunderbolt™ 3. Devices that require the protocols mentioned before (Power Delivery and/or DP Alt mode) will also work on Thunderbolt™ 3 devices.

#### Thunderbolt<sup>™</sup>4

Thunderbolt<sup>™</sup>4 has a few similarities with Thunderbolt<sup>™</sup>3, however some features are significantly different. They both use the same USB-C connector and the maximum throughput speed is the same: 40Gbps.

Thunderbolt<sup>™</sup>4 can handle 1x 8K @60Hz video or 2x 4K @ 60Hz video. Besides, the PCI-e data transfer speed is 32Gbps instead of 16Gbps with Thunderbolt<sup>™</sup>3. Additionally, Thunderbolt<sup>™</sup>4 offers a better protection against Thunderspy data attacks. The USB4® specifications are implemented in Thunderbolt<sup>™</sup>4. In short we can say that Thunderbolt<sup>™</sup>4 gets the best out of USB4®.

## What to keep in mind when using a USB-C cable?

The most important question when purchasing a USB-C cable is the function of the cable. A cable that is used for transferring data only requires other specifications than a cable that is used for power throughput. If you use a USB-C cable for powering devices like a laptop, always check if your cable can provide the required power throughput. Some very cheap cables can cause malfunction, or even worse, fire due to overheating.

- Data throughput: which speed do I want to reach?
- Video: can I connect my laptop to a screen?
- Power: what are the cable power throughput specifications?

#### **USB-C** accessories and adapters

Adapters from USB-C to USB-A or USB-A to USB-C can help you connecting devices and peripherals. There is always a chance that it won't work (properly). Keep in mind that the USB-C protocols doesn't always match with USB-A protocols.

## **USB-C** chargers

If you want to charge your device via USB-C, you need to make sure the USB-C cable supports Power Delivery and that the cable is suitable for the correct power throughput. Our USB 3.2 and 2.0 cables have a maximum power throughput of 60W. Our USB4® cables can handle a power throughput of 240W.

You also need to keep in mind the maximum power the USB-C charger can supply. A 20W USB-C charger is good enough to charge your smartphone. If you need to charge/power a laptop or monitor, this charger needs to support at least 45W, depending on the laptop/monitor type.





When using an ACT USB-C cable without an e-marker to charge your 65W device with a 65W charger, the charger and device will communicate with each other and decide to charge with 60W. As the used cable can handle max. 60W. It is even possible to charge your smartphone (with Power Delivery) with the ACT 45W or 65W USB-C laptop charger. The charger communicates with the smartphone to determine the best charging profile.

Many USB-C peripherals have a dedicated USB-C Pass-Through port. This port can be used for connecting the laptop charger, as one USB-C port is already occupied by the peripheral itself..

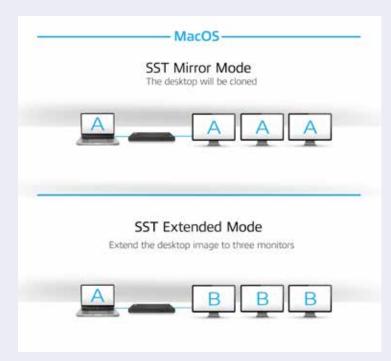
Please be careful with cheap imported USB-C chargers and USB-C cables.

#### Video adapters

USB-C video adapters are used for connecting one additional HDMI, DisplayPort, DVI or VGA monitor to extend your laptop's desktop. This works on both Windows and Apple computers.

It is possible to connect a single monitor or multiple monitors to your laptop. It depends on the OS (Windows or MacOS) of the laptop how the external screen(s) will function. The laptop needs to support DisplayPort Alternate Mode. Depending on the DisplayPort version SST or MST is possible.

SST or Single Stream Transport is used with DisplayPort 1.0. With SST only one stream is possible. SST can have a mirror mode and extended mode. With the mirror mode the host laptop screen will be cloned to each connected monitor. The extended mode displays one additional laptop image to the connected monitors. MacOS supports SST.



MST or Multi Stream Transport is available from DisplayPort 1.2 and higher. With MST multiple video outputs are possible.

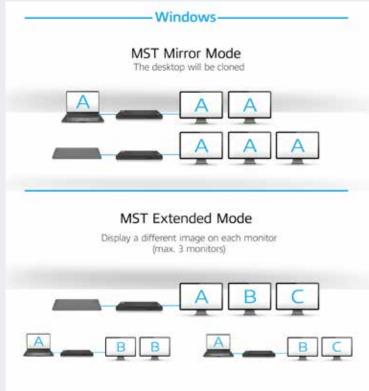
MST also has a mirror mode and extended mode. With the mirror mode it is possible to clone the host laptop screen to two or three external monitors.

The extended mode enables to expand the host laptop to max. three external displays with each their own image. MST is supported by Windows, not by MacOS.

When extending your Mac computer with two additional screens and different images an adapter is necessary with its own dedicated chipset, e.g. DisplayLink.

Another option for extending your Mac computer with extra screens is connecting the monitors via Thunderbolt™ Daisy Chaining. Connect a monitor,

with Thunderbolt™ support and an additional USB-C Thunderbolt™ port, to the Mac computer. Connect a second monitor with Thunderbolt™ support via Daisy Chaining to the first monitor.



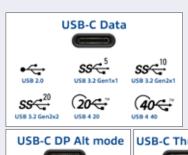
#### Multiport adapters en docking stations

If you are using a USB-C docking station with a hub, ethernet, video and power, the USB-C port requires the DisplayPort Alternate Mode and Power Delivery protocols. In case of an USB-A adapter, there isn't any support for images and charging. Only the hub and ethernet will function. As mentioned at 'video adapters', this issue can be solved by using a docking station with dedicated chipset, e.g. DisplayLink. This works for both Windows and Apple devices. The installation of a separate driver is needed.

#### Which protocol is supported by my device?

It can be very hard to find out which technology or protocol is supported by a laptop, smartphone and tablet with USB-C. Each technology and protocol has its own dedicated logo. The most convenient way would be to put the logo next to the USB-C port. Unfortunately, this isn't mandatory for manufacturers and thus leads to confusion.

We highly recommend to consult the manual/user guide of your device. If your device does have a logo next to the USB-C connection, you can see here what it means:







#### Is the cable suitable for charging, data or video?

The hardest part is identifying the cable and its corresponding features. The quality of one USB-C cable can be completely different than the quality of another USB-C cable. This is hardly visible from the outside of the cable. We advise you to consult the manufacturer to check the specifications.

The use of a good quality USB-C cable is of great importance. Using a poorquality USB-C cable can lead, in the best case, to a lower throughput speed, the loss of power and image glitches.

In the worst case it can lead to irreparable damage to your valuable equipment, e.g. when using a poor-quality USB-C cable for charging your devices. The cable will burn out and damage the connected devices.

The use of an officially certified USB-C cable guarantees the best quality and functionality.

#### Officially USB-IF certified

ACT is member of the USB Implementers Forum, Inc. This means that our officially certified USB-C cables are tested to the highest standards of USB-IF. The official logo of USB-IF can be found on the connector.



#### What if you need to bridge a longer distance than 2 meters?

The solution for connecting USB-C devices over a longer distance (max. 10 meters) is a USB-C Active Optical Cable (AOC). This cable consists of copper and fiber. The copper part is needed for transporting power. As fiber optics does not conduct electricity. The fiber optic part is used for all data traffic including the video signal.

USB-C Active Optical Cables do have some advantages compared to regular USB-C copper cables:

- No data loss over longer lengths. Less interference with EMI (Electromagnetic Interference) / RFI (Radio Frequency Interference);
- The internal copper cable does not interfere with the data and video signal:
- The cables are bi-directional for data;
- Available in lengths up to 10 meters.

#### **USB-C** summarized

- The standard for USB connectors
- Compact and reversible connector
- Supports transfer speed up to 40Gbps (80Gbps with USB4 2.0)
- Charge faster and safer with Power Delivery (PD/EPR)
- Support for DisplayPort Alternate Mode (up to 8K)
- One cable for data, video and power
- Thunderbolt™ support
- USB-C Active Optical Cables for longer distance





# ALT USB 3.0 cable (USB 3.2 Gen1)



Colour	Description	0.5m	1m	1.5m	2m	3m	5m
Black	USB 3.2 Gen1 A male - A male Double shielded				<u>SB3002</u>	<u>SB3003</u>	<u>SB3005</u>
Black	USB 3.2 Gen1 A male - A male	<u>SB3010</u>	<u>SB3011</u>		<u>SB3013</u>	<u>SB0001</u>	<u>SB0002</u>
Black	USB 3.2 Gen1 A male - A female	<u>SB3040</u>	SB3041	SB3042	<u>SB3043</u>		
Black	USB 3.2 Gen1 A male - B male	<u>SB3016</u>	SB3017		SB3019	<u>SB0003</u>	<u>SB0004</u>
Black	USB 3.2 Gen1 A male - USB 3.0 micro B male	SB3028	SB3029		SB3031		

Colour	Description	0.5m	1m	1.8m	2m	3m	5m
Black	USB 2.0 A male - USB 2.0 A male, Retail packed		<u>AC3030</u>	<u>AC3032</u>		<u>AC3033</u>	AC3045
Black	USB 2.0 A male - USB 2.0 A female, Retail packed			<u>AC3040</u>		<u>AC3043</u>	
Black	USB 2.0 A male - USB 2.0 A female	<u>SB2218</u>		<u>SB2220</u>		<u>SB2230</u>	SB2250
Black	USB 2.0 A male - USB 2.0 A female (AWG20)					<u>SB0036</u>	
lvory	USB 2.0 A male - USB 2.0 A female	<u>SB2198</u>	<u>SB2199</u>	<u>SB2200</u>		<u>SB2203</u>	SB2205
Ivory	USB 2.0 A male - USB 2.0 A male				<u>SB2502</u>	<u>SB2503</u>	
Black	USB 2.0 A male - USB 2.0 A male			<u>SB2520</u>		<u>SB2530</u>	SB2550
Black	USB 2.0 A male - USB 2.0 B male	<u>SB2398</u>	<u>SB2401</u>	<u>SB2402</u>   <u>EC2402</u>		SB2403   EC2403	SB2405
Black	USB 2.0 A male - USB 2.0 B male angled			<u>SB2408</u>			
Black	USB 2.0 A male - USB 2.0 mini B male			AC3050			
Black	USB 2.0 A male - USB 2.0 mini B male			<u>SB2412</u>		<u>SB2413</u>	SB2415
Black	USB 2.0 A male - USB 2.0 mini B male			SB2432			
Black	USB 2.0 A male - USB 2.0 micro B male	SB0005	SB0006		<u>SB2498</u>	<u>SB0007</u>	SB0008
Black	LISB 2.0 micro B male - LISB 3.0 micro B male				SR2602		

# Colour Description Max. cable length 50m Grey USB A 1.1 male - USB A 1.1 female, RJ45 (x2) Black USB A 2.0 male - USB A 2.0 female, RJ45 (x2) AC6063

<b>ACT</b> U	JSB booster cable				<b>~</b>
Colour	Description	Bandwidth	Cascadable	5m	10m
Black	USB 2.0 A male - USB 2.0 A female	480Mbps	4x	<u>AC6005</u>	AC6010
Black	USB 3.2 Gen1 A male - USB 3.2 Gen1 A female	5Gbps	2x	AC6105	AC6110
Black	USB 3.2 Gen1 C male - USB 3.2 Gen1 C female	5Gbps	3x	AC7060	

ACT	JSB adapters	
Colour	Description	Type no.
Black	USB 3.2 Gen1 C male - USB A female adapter	SB0037

#### **ALT** USB-C cable USB 3.2 USB 4 USB 4 USB-IF Max PD Colour USB 2.0 Description 0.8m 1m 2m Gen1 20Gbps 40Gbps certified Power Black 60W AC7401 AC7402 USB 3.2 Gen1 connection cable C male - C male Black USB 3.2 Gen1 connection cable C male angled - C male straight X Х Х 60W AC7406 AC7407 Black USB 3.2 Gen1 connection cable C male - C female Х Х Х Х 60W AC7412 Black USB 2.0 connection cable C male - C male Х Χ X Χ AC3096 Х Х Х Black USB 2.0 connection cable C male - A male Х AC7350 Х Х Х X Black USB 2.0 connection cable C male - A male SB0014 Х Х X 60W Black USB 3.2 Gen1 connection cable C male - A male Х AC7416 AC7417 Х Black USB 4 20Gbps connection cable C male - C male (Thunderbolt™3) Х Х 240W AC7431 USB 4 40Gbps connection cable C male - C male (Thunderbolt™3/4) Black Χ 240W AC7451

<b>ACT</b> c	JSB-C adapters, Retail packed					<u>~</u>
Colour	Description	USB 2.0	USB 3.2 Gen1	USB 3.2 Gen2	Length	Type no.
Black	USB-C - USB-A female OTG adapter USB 3.2	X	✓	X	20 cm	<u>AC7340</u>
Black	USB-C male - USB-A female	X	✓	X	-	<u>AC7355</u>
Black	USB-A male - USB-C female	X	✓	X		<u>AC7375</u>

<b>ACT</b> u	SB-C videoadapters								
Colour	Description	1080@30Hz	1080@60Hz	4K@30Hz	4K@60Hz	MST	Power delivery Pass-through	Cable length	Type no.
	USB C male - VGA female	✓	X	X	X	Х	X		AC7000
Black	USB C male - VGA female	<b>√</b>	X	X	X	X	X		AC7300
luminium	USB C male - HDMI female	✓	✓	√	✓	X	X		AC7010
	USB C male - 2x HDMI male	✓	✓	√	√	✓	X		AC7012
Black	USB-C - HDMI female adapter	✓	√	√	Х	Х	X	15cm	AC7305
Black	USB-C - HDMI female adapter	<b>√</b>	✓	✓	✓	X	X	15cm	AC7310
luminium	USB-C - DisplayPort female adapter	✓	✓	√	✓	X	X		AC7030
Black	USB-C - DisplayPort female adapter	<b>√</b>	✓	√	√	Х	X	15cm	AC7320
White	USB C male - DVI male	✓	✓	✓	✓	X	X	15cm	SB0021
Black	USB C male - VGA male	✓	✓	√	X	Х	X	2m	SB0033
Black	USB C male - VGA male	<b>√</b>	✓	X	X	X	X	2m	SB0032

<b>ACT</b> U	SB-C video adapter cable						9	
Colour	Description	1080@30Hz	1080@60Hz	4K@30Hz	4K@60Hz	Cable length	Type no.	
Aluminium	USB C male - HDMI male	<b>√</b>	✓	✓	✓	1.8m	<u>AC7015</u>	
Black	USB C male - HDMI male	✓	✓	✓	✓	2m	<u>SB0030</u>	
Black	USB C male - HDMI male	✓	✓	✓	✓	2m	AC7315	
Aluminium	USB C male - DisplayPort male	✓	✓	✓	✓	1.8m	AC7035	
Black	USB C male - DisplayPort male	<b>√</b>	✓	✓	✓	2m	<u>SB0031</u>	
Black	USB C male - DisplayPort male	✓	✓	✓	✓	2m	AC7325	
The USB-C	The USB-C port must support DisplayPort alternate mode or Thunderbolt™3 and can be recognised by the DP or Thunderbolt™ 3 logo at the USB C port (e.g. a MacBook)							



# ALT USB-C 3.2 Gen1 hubs, retail packaging



Colour	Description	USB-A	PD	Ethernet	Cardreader	Type no.
Aluminium	USB-C Hub with cardreader and PD Pass-Through	3	65W	X	✓	AC7050
Aluminium	USB-C Hub with cardreader	3	X	X	✓	AC7051
Aluminium	USB-C Hub with cardreader and PD Pass-Through	3	65W	X	✓	AC7052
Aluminium	USB-C Hub with PD Pass-Through	4	65W	X	X	AC7053
Aluminium	USB-C Hub with Gigabit ethernet-poort	3	X	✓	X	AC7055
Aluminium	USB-C 3.2 Gen1 Hub	3	X	✓	X	<u>AC6400</u>
Aluminium	USB-C 3.2 Gen1 Hub	3	X	X	✓	<u>AC6405</u>
Aluminium	USB-C 3.2 Gen1 Hub	4	X	X	X	AC6410
Aluminium	USB-C 3.2 Gen1 Hub	4	X	X	X	AC6415
Aluminium	USB-A 3.2 Gen1 Hub, 15cm, external	4	X	X	X	AC6120

# ALT USB-C 3.2 Gen2 hubs, retail packaging



Colour Description		USB-A	USB-C	Type no.
Aluminium USB-C Hub with	JSB-C and USB-A, 10Gbps	2	2	<u>AC7070</u>

# ALT USB-C male - 3.5mm audio jack female PD-passthrough, retail packaging





Colour	Description	Cable length	Type no.
Aluminium	USB-C male - 3.5mm audio jack female PD-passthrough, 65W	15cm	AC7005

# **ALT** USB-C Gigabit network adapter, retail packaging



			- CA
Colour	Description	Cable length	Type no.
Aluminium	USB-C Gigabit network adapter	15cm	AC7080

# **ALT** USB-C hub with HDMI, retail packaging



Colour	Description	USB-A	USB-C	4K@30Hz	Cardreader	PD	Type no.
Aluminium	USB-C - HDMI 4K@30Hz adapter with hub and cardreader	2	1	✓	✓	60W	<u>AC7021</u>
Aluminium	USB-C - HDMI 4K@30Hz adapter with USB-A poort	1	0	✓	X	60W	AC7022
Aluminium	USB-C - HDMI 4K@30Hz adapter with USB Hub and cardreader	2	0	✓	✓	60W	<u>AC7023</u>
Aluminium	USB-C - HDMI 4K@30Hz adapter with USB Hub	4	1	✓	X	85W	<u>AC7024</u>
Aluminium	USB-C Thunderbolt™ 3 - HDMI 4K@30Hz adapter	2	2	✓	✓	100W	<u>AC7025</u>
The LICD C	we also we have been also we also we also we also we also we then the also be a set of the set of the also be a set of the set of the also be a set of the set of the also be a set of the set of the also be a set of the set of the also be a set of the set of the also be a set of the set	sa anisa d but tha I	D ay Thursdayba	HTM 2 lage at the	LICE Control	- 11B/-)	

# **ALT** USB-C multiport video adapters and laptop docking, retail packaging



Colour	Description	USB-A	USB-C	Cardreader	PD	MST	Type no.
Aluminium	USB-C Multiport video adapter, 4K@30Hz	1	0	X	✓	×	AC7040
Aluminium	USB-C Multiport video adapter, 4K@30Hz with cardreader	2	0	✓	✓	×	AC7041
Aluminium	USB-C Multiport video adapter, 4K@30Hz	3	0	X	✓	X	AC7042
Aluminium	USB-C Multiport video adapter, 4K@30Hz with cardreader and 3.5mm audio jack	3	0	✓	√	X	AC7043
Black	USB-C 4K Multiport Dock - 4K@30Hz	1	0	X	X	×	AC7330

e USB-C port must support DisplayPort alternate mode or Thunderbolt™3 and can be recognised by the DP or Thunderbolt™ 3 logo at the USB C port (e.g. a MacBook)

#### **USB Active Optical Cables**

The USB-C Active Optical Cable (AOC) connects your USB-C devices over a long distance while maintaining data, video and power. These cables consist of copper and fiber optics. The copper part is needed for carrying power, as fiber does not conduct electricity. The fiber section is used for all data traffic, including the video channel. The USB-C Active Optical Cables are ideal if your laptop is further away from the monitor or if you have a USB-C monitor with extended features. In addition to transferring video and data, some

USB-C monitors also have a charging function. Thus, the laptop transmits the image signal to the monitor and the monitor actually powers your laptop again.

The USB-C monitor thus acts as a kind of docking station.

#### The advantages of the USB-C Active Optical Cable:

- Suitable for long distances without loss of data
- Maintains optimal speed and signal
- Full support of 4K @ 60Hz
- Maximum full-length bandwidth
- Ideal for touchscreens, digiboards and smartboards
- Send and receive data and video via optical fiber and are therefore unaffected by EMI/RFI interference
- The cables are bi-directional for data

#### Appplication areas USB-C Active Optical Cable:

- Meeting room
- University or college lecture hall or classroom
- Hospitals
- (Home) office



# Colour Description 3m 5m 7m 10m Black USB 3.2 Gen2 C male – USB 3.2 Gen2 C male AK4303 AK4305 AK4307 AK4310

#### Official USB-IF certified

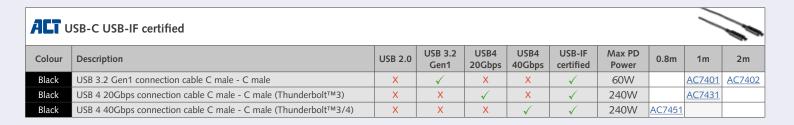
ACT is a member of the USB Implementers Forum, Inc. This means that our officially certified USB-C cables are tested and certified to the highest standards of the USB-IF. This ensures that the cable meets all the quality requirements for the specifications of that type of USB cable. This is because a USB 3.2 Gen1 cable has different specifications than a USB4 cable. There are also maximum lengths set by USB-IF for copper USB cables. Below is an overview of these lengths:

# The USB Implementers Forum, Inc (USB-IF) has set a maximum length for the various USB standards:

- USB 2.0 cables support a maximum length of 4 meters with a throughput of 480Mbps
- USB 3.2 Gen1 cables support a maximum length of 2 meters with a throughput of 5Gbps
- USB 3.2 Gen2 cables support a maximum length of 1 meter with a throughput of 10Gbps
- USB4® 20Gbps cables support a maximum length of 1 meter with a throughput of 20Gbps
- USB4® 40Gbps cables support a maximum length of 0.8 meter with a throughput of 40Gbps
- Thunderbolt™4 cables support a maximum length of 0.8 meter
- Thunderbolt™3 cables support a maximum length of 0.8 meter.

You can find the official USB-IF logo on the connector.







#### AC7048: USB-C Triple 4K Docking Station

The AC7048 Triple 4K Monitor Docking Station turns your Windows laptop or MacBook into a complete workstation by connecting one single USB-C cable. With DisplayLink® technology, both Windows and Apple computers can be expanded with up to three 4K displays.

The docking station is equipped with a Gigabit LAN port, 5 USB ports, 1 USB-C port and a microphone and headphone jack.

The docking station comes with a 135W power adapter. This power adapter powers the

AC7048 and charges the connected laptop with up to 100W.

The ACT USB-C Triple 4K Docking Station meets meets all the requirements of the DisplayLink Certified Logo Program.





# Turn a Windows laptop or MacBook into a complete workstation with one USB-C cable

The AC7048 offers the complete package for turning a laptop into a complete workstation by connecting one single USB-C cable to the laptop. Connect up to three 4K monitors (max resolution 4096x2160p @ 60Hz) to the HDMI or DisplayPort ports. The docking station is equipped with a Gigabit LAN network port, a microphone jack and a headphone jack. The AC7048 adds six additional USB ports to the laptop: five USB-A ports and one USB-C port.

# DisplayLink® technology: expand the desktop of MacOS and Windows computers

The AC7048 docking station has an integrated DisplayLink® chip. The computer desktop can be extended with up to three additional displays. In total, there are four different views: 1x laptop, 3x monitor. The DisplayLink® technology works with any Windows or MacOS computer with USB-C support. DisplayLink® technology provides a stable solution for laptop expansion by using a chipset instead of DP Alt Mode.



# Only one USB-C Cable needed USB-C to C Cable, 1m included Also C to A Adapter included

#### Charge the laptop via the docking station with up to 100W

The docking station comes with a 135W power adapter. The power adapter powers the docking station itself and can additionally charge the attached laptop with up to 100W. There is no need to connect another separate laptop power supply. The laptop is charged via the USB-C connection cable. It is therefore important that the laptop supports USB-C charging.

#### Additional functions

Use the power button on the AC7048 to turn the docking station and all connected peripherals on or off at once. The USB-C/A ports are all USB 3.2 Gen1 data ports with a maximum transfer speed of 5Gbps. Connect USB peripherals or charge a laptop or tablet. Furthermore, it is possible to connect a microphone and headphones to the 3.5mm audio ports.

The AC7048 comes with a USB-C to USB-A adapter. This allows the docking station to be used with a laptop that only has a USB-A port. Note that the Power Delivery passthrough feature does not work with USB-A. The laptop will need a separate power adapter.

Turn your laptop into a complete workstation with one USB-C cable? That is possible with ACT USB docking stations. These allow you to connect multiple monitors. They also allow you to connect various devices via a Gigabit Ethernet port, USB-A port and a USB-C pass-through charging port with Power Delivery support.

Туре по.	<u>AC7048</u>	<u>AC7049</u>	<u>AC7047</u>
	DisplayLink'  Reg and Growin	DisplayLink*	
Description	USB-C Triple 4K DisplayLink Docking station, with PD	USB-C or USB-A Dual Docking station	USB-C 4K Triple Docking station, with PD
Input	USB-C male / USB-A male (adapter)	USB-C male / USB-A male (adapter)	USB-C male
Output	DisplayPort female (x2), HDMI female (x3), RJ45 female (x1), 3.5 mm jack (x2), USB-A 3.2 Gen1 female (x5), USB-C female (x1)	HDMI female (x2), USB-A 2.0 (x4), USB-A 3.2 Gen1 (x2), RJ45 (x1), 3.5 mm jack (x2)	3.5 mm jack female (x1), DisplayPort female (x1), HDMI A female (x2), RJ45 female (x1), SD card slot (x1), Micro SD card slot (x1), USB A female (x3), USB C female (x1)
USB Standard	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)
USB port specification	USB 3.2 Gen1 - SuperSpeed (x5)	USB 2.0 - HighSpeed (Enhanced) (x4) USB 3.2 Gen 1 - SuperSpeed (x2)	USB 3.2 Gen1 - SuperSpeed (x4)
Data transfer rate	5 Gbps (USB 3.2 Gen1)	5 Gbps (USB 3.2 Gen1)	5 Gbps (USB 3.2 Gen1)
USB-C	Yes	Yes	Yes
Charge via USB-C PD cable	Yes	No	Yes
Power Delivery ports*	Yes	No	Yes
Power supply for PD included	Yes	No	No
Max PD power	100W	-	100W
Supported PD profiles	20.0V to 5.0A, 15.0V to 5.0A, 12.0V to 5.0A, 5.0V to 5.0A, 9.0V to 5.0A	-	12.0V to 3.0A, 15.0V to 3.0A, 20.0V to 5.0A, 5.0V to 3.0A, 9.0V to 3.0A
Video signal	DisplayPort, HDMI	HDMI	Displayport, HDMI
Video specifications	HDMI Ultra HighSpeed, DisplayPort 1.4	HDMI Highspeed	HDMI Ultra Highspeed, Displayport 1.4
Resolution	4096 x 2160 @ 30Hz, 4096 x 2160 @ 60Hz	2560 x 1440 @ 30Hz	4096 x 2160 @ 30Hz, 4096 x 2160 @ 60Hz
4K compatible	Yes	No	Yes
Cable length cm.	100	100	100
System requirements	DisplayLink software	DisplayLink software	USB-C PD charger for PD charging, USB-C port with DisplayPort Alternate Mode (DP Alt Mode)
Ethernet	1x Gigabit	1x Gigabit	1x Gigabit
Cardreader	No	No	Yes
Material case	ABS	ABS	Aluminium
Additonal	External power adapter MST & Triple display support USB-C cable with USB-A adapter When using the docking station with a USB-A laptop, the Power Delivery passthrough function is disabled. The laptop needs a separate power adapter USB-A supports up to 2 displays	USB-C / USB-A cable included	External power adapter MST support Dual and Triple display support Micro SD / SD card reader USB-C cable
*Power delivery Pass-Th	rough port, for charging your connected USB-C device	re	

Do you spend a lot of time on the road or do you use a flexible workstation? Then USB-C multiport adapters are a compact solution to easily expand your laptop into a complete workstation. This by connecting just one USB-C cable to your laptop. You add one monitor connection to your laptop. Depending on the model, you additionally add a network port, USB hub, PD pass-through port and/or card reader. To do so, your laptop must support DisplayPort Alternate Mode. If you want to use the PD pass-through port, your laptop must support Power Delivery charging.

Туре по.	<u>AC7021</u>	<u>AC7022</u>	<u>AC7023</u>	<u>AC7024</u>	<u>AC7025</u>
	WITH FOLDABLE CABLE				
Description	USB-C to HDMI adapter with PD, 4K @ 60Hz, USB-A, USB-C, Card reader	USB-C to HDMI adapter with PD, 4K @ 60Hz, USB-A	USB-C to HDMI multiport adapter 4K, USB hub, card reader, PD pass through	USB-C to HDMI multiport adapter 4K, USB hub, PD pass through	USB-C Thunderbolt™ 3 to HDMI multiport adapter 4K, USB hub, cardreader and PD pass through
Input	USB-C male	USB-C male	USB-C male	USB-C male	USB-C male (x2)
Output	HDMI A (full-size) female (x1) USB-C female (x1) USB-A female (x2) SD slot (x1), microSD slot (x1)	HDMI A (full-size) female (x1) USB-A female (x1	HDMI A (full-size) female (x1) USB-A female (x2) SD slot (x1) microSD slot (x1)	HDMI A (full-size) female (x1) USB-A female (x4)	HDMI A (full-size) female (x1) USB-C female (x1) USB-A female (x2) SD slot (x1), microSD slot (x1)
Cable length (cm)	12	12	13	13	-
Power Delivery ports*	1	1	1	1	1
Max. PD power	60 W	60 W	60 W	85 W	100 W
4K compatible	Ja	Ja	Ja	Ja	Ja
Max. resolution	4096 x 2160 @ 30 Hz 1920 x 1080 @ 60Hz	3840 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	3840 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	3840 x 2160 @ 30Hz 1920 x 1080 @ 60Hz
Video signal	HDMI	HDMI	HDMI	HDMI	HDMI
Video specifications	HDMI High Speed	HDMI High Speed	HDMI High Speed	HDMI High Speed	HDMI High Speed
Video support	HDCP	-	HDCP	-	Thunderbolt™ 3
USB compatibility	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 2 - SuperSpeed 10Gbit/s (USB 3.1)
Data transfer rate	5 Gbps	5 Gbps	5 Gbps	5 Gbps	10 Gbps
System requirements	DP Alt mode	DP Alt mode	DP Alt mode	DP Alt mode	MacBook Pro /2017/2018/2019) met 2 vrije USB-C poorten
Ethernet	No	No	No	No	No
Card reader	Yes	No	Yes	No	Yes
Material case	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium

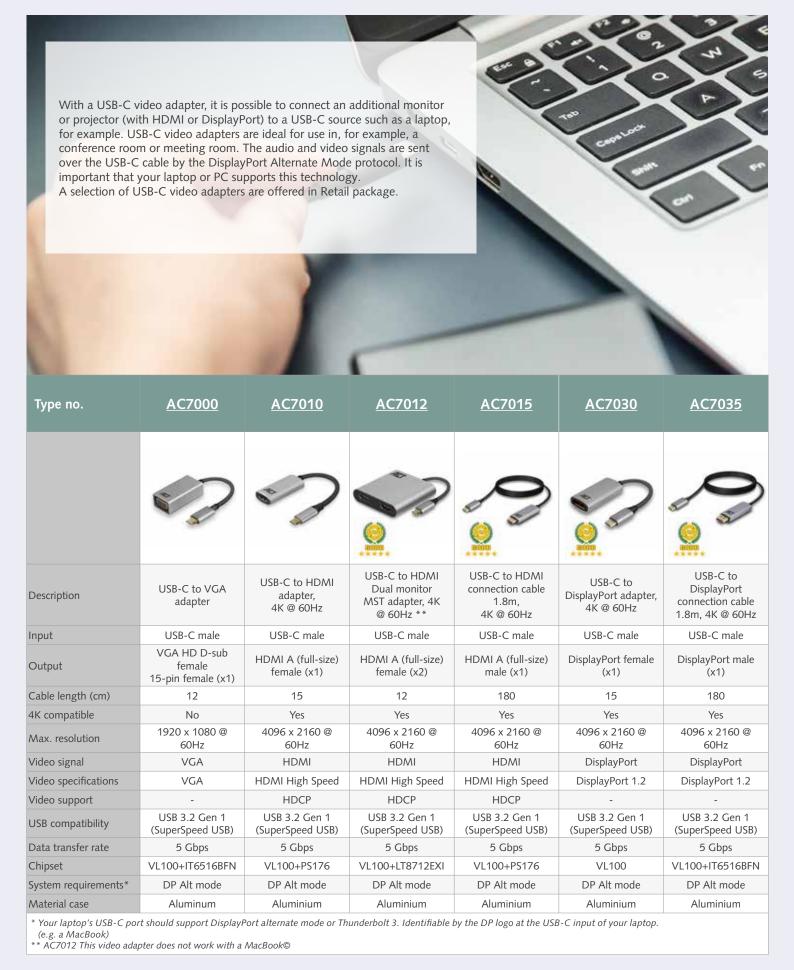
<sup>\*</sup> USB-C pass-through charging port with PD (Power Delivery) support. Max. 100W (for charging connected USB-C devices only)

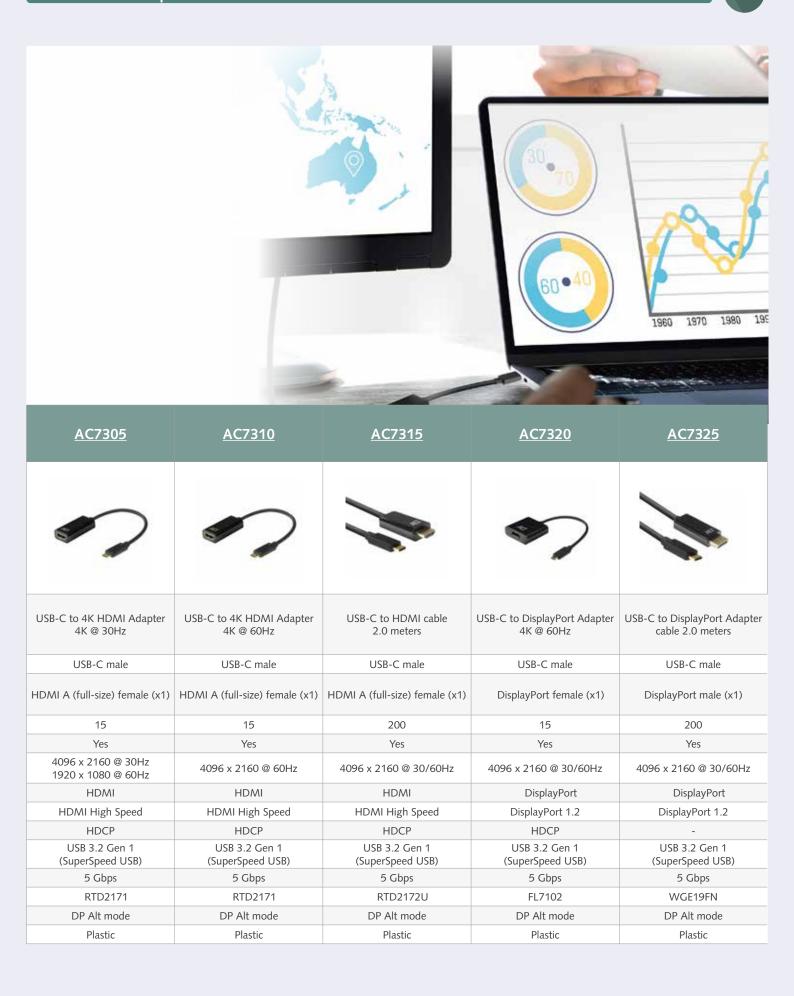
<sup>\*\*</sup> Your laptop's USB-C port should support DisplayPort alternate mode or Thunderbolt 3. Identifiable by the DP logo at the USB-C input of your laptop. (e.g. a MacBook)





<u>AC7040</u>	<u>AC7041</u>	<u>AC7042</u>	<u>AC7043</u>	AC7330	<u>AC7044</u>
		WITH	WITH FOLDABLE CABLE		
USB-C to HDMI multiport adapter with ethernet, USB hub	USB-C to HDMI multiport adapter with ethernet, USB hub, card reader and PD pass through	USB-C to HDMI multiport adapter with ethernet and USB hub	USB-C to HDMI or VGA multiport adapter with ethernet, USB hub, cardr eader, audio and PD	USB-C to HDMI/VGA adapter 4K with ethernet and hub	USB-C Thunderbolt™ 3 to Multiport Adapter 4K
USB-C male	USB-C male	USB-C male	USB-C male	USB C male	USB C male (x2)
HDMI A (full-size) female (x1), USB A female (x1), USB C female (x1), RJ45 female (x1)	HDMI A (full-size) female (x1), USB A female (x2), USB C female (x1), SD card slot (x1), Micro SD card slot (x1)	HDMI A (full-size) female (x1), RJ45 female (x1), USB 3 A female (x3), USB C female (x1)	(x1), RJ45 female (x1),	HDMI A (full-size) female (x1) VGA, RJ45, USB	HDMI A (full-size) female (x1)  USB-C female (x2)  USB-A female (x1)  SD slot (x1)  microSD slot (x1)  RJ45 (x1)
15	15	12	12	15	-
1	1	1	1	No	1
60 W	60 W	60 W	60 W	-	100 W
Yes	Yes	Yes	Yes	Yes	Yes
4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz	4096 x 2160 @ 30Hz 1920 x 1080 @ 60Hz
HDMI	HDMI	HDMI	HDMI, VGA	HDMI, VGA	HDMI
HDMI High Speed	HDMI High Speed	HDMI High Speed	HDMI High Speed, VGA	HDMI High Speed, VGA	HDMI High Speed
HDCP 2.2	HDCP 2.2	HDCP 2.2	-		Thunderbolt™ 3
USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 2 - SuperSpeed 10Gbit/s
5Gbps	5Gbps	5Gbps	5Gbps	5 Gbps	10 Gbps
DP Alt mode**	DP Alt mode**	DP Alt mode**	DP Alt mode**	DP Alt mode**	MacBook Pro /2017/2018/2019) with 2 free USB-C ports
1x Gigabit	1x Gigabit	1x Gigabit	1x Gigabit	1x Gigabit	1x Gigabit
No	Yes	No	Yes	No	Yes
Aluminium	Aluminium	Aluminium	Aluminium	Plastic	Aluminium

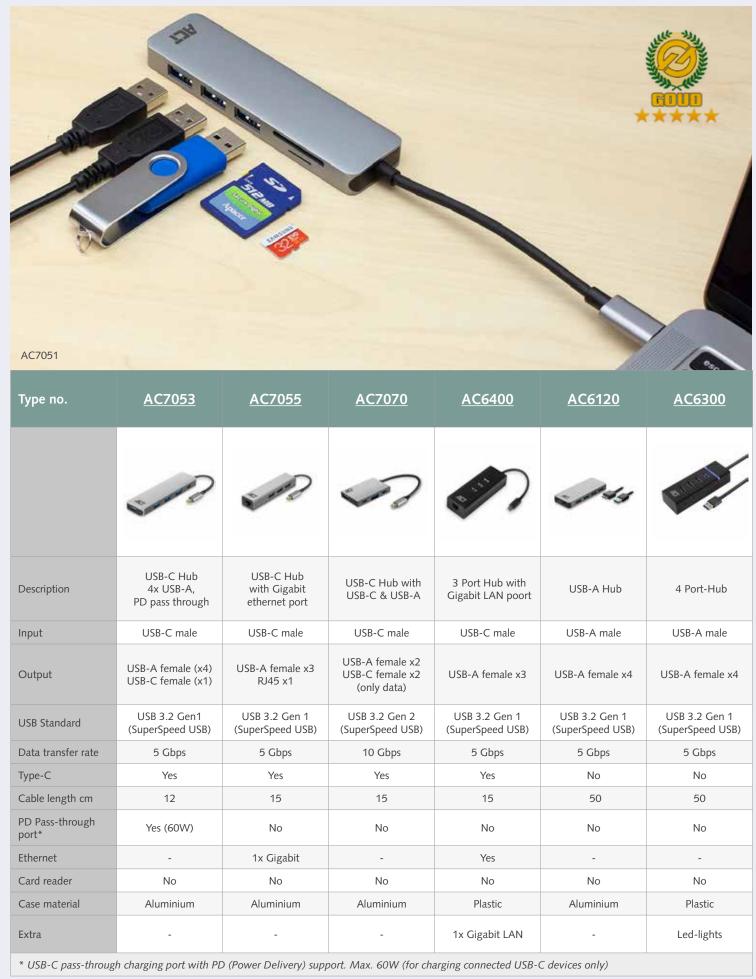


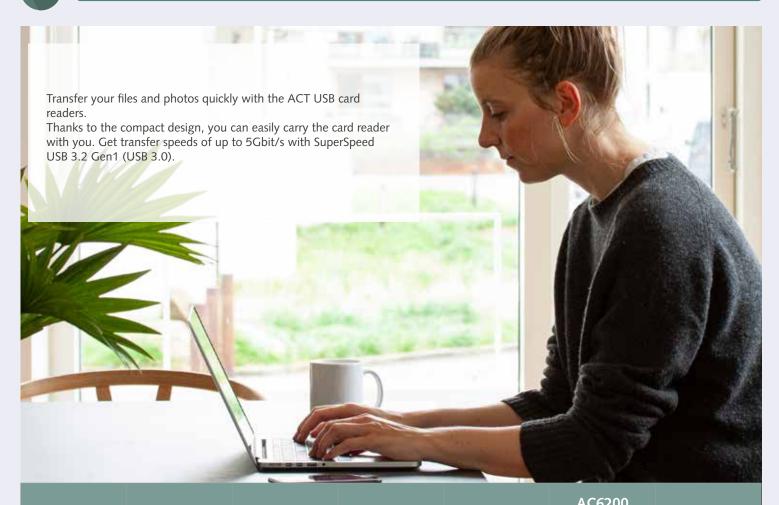




ACT Hubs allow you to connect multiple USB-A and/or USB-C devices to your laptop with USB-C. The hubs are ready to use and work without an external power source. USB is the standard for connecting peripherals, such as hubs. The name of the connectors has changed a number of times over the years. This can lead to confusion. The current name of ACT hubs: USB 3.2 Gen1 is also called SuperSpeed USB and has a speed of up to 5Gbps. Previous names: USB 3.1 Gen1 and USB 3.0.

Туре по.	<u>AC7050</u>	<u>AC7051</u>	<u>AC7052</u>	<u>AC6405</u>	<u>AC6410</u>	<u>AC6415</u>		
		12	(1)					
Description	USB-C Hub with card reader and PD Pass-Through*	USB-C Hub with card reader	USB-C Hub 3x USB-A, card reader, PD pass through	USB-C Hub 3x with card reader	USB-C Hub 4x with power adapter	USB-C Hub 4x		
Input	USB-C male	USB-C male	USB-C male	USB-C male	USB-C male	USB-C male		
Output	USB-A female x3 USB-C female x1 SD + Micro SD slot	USB-A female x3 SD + Micro SD slot	USB-A female (x3) USB-C female (x1) Micro SD slot (x1) SD slot (x1)	USB-A female x3 SD + Micro SD slot	USB-A female x4	USB-A female x4		
USB Standard	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)		
Data transfer rate	5 Gbps	5 Gbps	5 Gbps	5 Gbps	5 Gbps	5 Gbps		
Туре-С	Yes	Yes	Yes	Yes	Yes	Yes		
Cable length (cm)	15	15	13	12	50	30		
PD Pass-through port*	Yes (60W)	No	Yes(60W)	No	No	No		
Ethernet	-	-	-	-	-	-		
Card reader	Yes	Yes	Yes	Yes	No	No		
Case material	Aluminium	Aluminium	Aluminium	Plastic	Plastic	Plastic		
Additonal	-	-	Foldable cable	-	External power adapter	-		
* USB-C pass-throug	* USB-C pass-through charging port with PD (Power Delivery) support. Max. 60W (for charging connected USB-C devices only)							





Type no.	<u>AC6305</u>	<u>AC6310</u>	<u>AC6315</u>	<u>AC6215</u>	AC6200 AC6205	AC6210
	<b>%</b> /				TITLE	M ACC
Description	4 Port Hub with power adapter	3 Port Hub with Gigabit LAN port	7 Port Hub with power adapter	7 Port Hub with power switch	4 Port Hub	4 Port Hub
Input	USB-A male	USB-A male	USB-A male	USB-A male	USB-A male	USB-A male
Output	USB-A female x4	USB-A female x3	USB-A female x7	USB-A female x7	USB-A female x4	USB-A female x4
USB standard	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 2.0	USB 2.0	USB 2.0
Data transfer rate	5 Gbps	5 Gbps	5Gbps	480 Mbps	480 Mbps	480 Mbps
Type-C	No	No	No	No	No	No
Cable length cm	52	15	100	65	12	8
PD Pass-through port*	No	No	No	No	No	No
Ethernet	No	Yes	No	No	No	No
Card reader	No	No	No	No	No	No
Case material	Plastic	Plastic	Aluminium	Plastic	Plastic	Plastic
Extra	10W power adapter included	1x Gigabit LAN	20W power adapter included	With power switch	AC6200: White AC6205: Black	Flexible design

# USB Smartcard ID reader for Belgian eID cards

Want to read out an eID or Smartcard? With the compact ACT USB Smartcard readers, you can read an eID or Smartcard anywhere easily and, above all, safely. The Smartcard readers are easy to install and use.

#### **Supports the most common Smartcards**

The AC6015 and AC6020 support the main Smartcard standards and specifications for an ID-1 card format including personal ID cards. The card readers are suitable for e-commerce, e-business, digital signatures, authentication and access security. The card readers are CAC approved and comply with PC/SC and WHQL standards.

#### No additional power adapter needed

No additional power adapter or cable is needed. The card readers are powered via the USB port. Connect the USB cable to the computer and the card reader is immediately ready to use.

- Complies with PC/SC 1.0/2.0, EMV 4.1 and WHQL standards
- Suitable for Windows and macOS



Туре по.	<u>AC7054</u>	AC6370	<u>AC6375</u>	<u>AC6025</u>	AC601 <u>5</u> AC6020
					99
Description	Card reader	Card reader	Card reader	Card reader	Smartcard reader
Input	USB-C	USB-A	USB-A/USB-C	USB-A male	AC6015: USB-A AC6020: USB-C
USB Standard	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 2.0	USB 2.0 - HighSpeed (Enhanced)
Data transfer rate	5 Gbps	5 Gbps	5 Gbps	480 Mbps	480 Mbps
Type-C	Yes	No	Yes	No	AC6015: No AC6020: Yes
Cable length (cm)	12 cm	50 cm	-	60 cm	100 cm
Case material	Aluminium	Plastic	Plastic	Plastic	Plastic
Extra	Reads and writes 2 memory cards simultaneously Support for the most commonly used memory cards: SD/SDHC/SDXC/ Micro SD	Supports de most commonly used memory cards	Supports de most commonly used memory cards: SD/SDHC/SDXC/ Micro SD	Supports de most commonly used memory cards	Reads an eID or Smartcard anywhere Only for Belgian eID cards

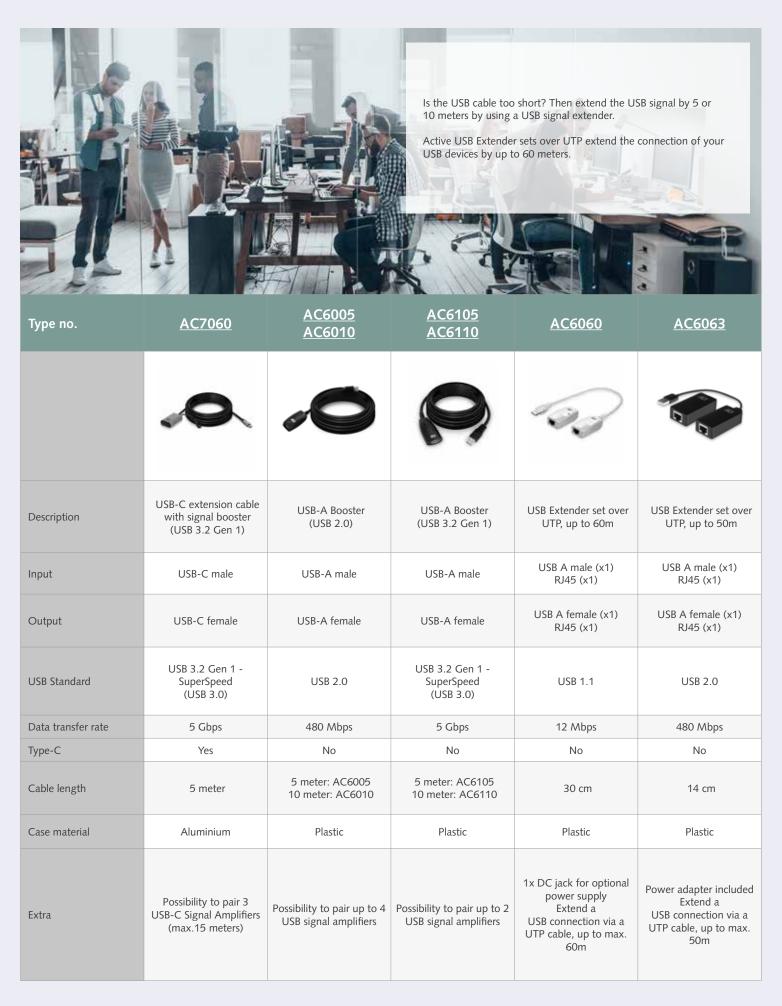


ACT USB to RJ45 Gigabit Ethernet adapters are the solution when the network port of the device (e.g. a laptop) is faulty or if it does not have a network port. Upgrade your laptop with a physical Gigabit network connection. The Ethernet adapter is a plug and play device. The AC7080 and AC7335 can be used on any USB-C port. The AC4410 is suitable for connection to a USB-A port.

Want to connect your desktop computer or laptop to a wireless home network, business network or your friends' network? Then use the compact AC4470 Mini Dual Band AC1200 wireless network adapter. The AC4470 has a unique small design with an internal 2dBi antenna to ensure optimal performance.

The sturdy aluminium AC7005 USB-C to 3.5mm Audio Adapter allows connecting a 3.5mm headset to a laptop/tablet/smartphone with USB-C.

			111113511)							
Type no.	AC7080	AC7005	AC7335	AC7380	AC6002	AC7375	AC4410	<u>AC4470</u>	AC6000	AC6030
				3	1		• •	100		6
Description	USB-C Gigabit network- adapter	Audio adapter USB-C to 3.5mm	USB-C Gigabit network adapter	Audio adapter USB-C to 3.5mm jack	USB-C to Serial converter	USB-A to USB-C Adapter	USB-A Gigabit network adapter	Mini Dual Band network adapter	USB to serial converter	Micro USB Bluetooth Adapter Class 1 v4.0
Input	USB-C male	USB-C male	USB-C male	USB-C male	USB-C male	USB-A male	USB-A male	USB-A male	USB-A male	USB-A male
Output	RJ45	3.5 mm jack	RJ45	3.5 mm jack	D-sub 9-pin male	USB-C female	RJ45	Wireless AC	D-sub 9-pin male	-
USB Standard	USB 3.2 Gen 1 (SuperSpeed USB)	-	USB 3.2 Gen 1 (SuperSpeed USB)	-	USB 2.0 - HighSpeed (Enhanced)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 1.1	-
Data transfer rate	5 Gbps	-	5 Gbps	-	250Kbps	5 Gbps	-	-	250Kbps	-
Type-C	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Cable length	15 cm	15 cm	15 cm	11 cm	1.5 m	-	15 cm	-	1.5 m	-
Ethernet	1x Gigabit	-	1x Gigabit	-	-	-	1x Gigabit	-	-	-
Case material	Aluminium	Aluminium	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic
Extra	-	Power Delivery Pass- Through- port 65W Built-in DAC Hi-res audio up to 4-bit/96kHz	-	Built-in DAC High res audio up to 6-bit/48kHz	Connect serial devices to your computer's USB-C port	-	-	MU-Mimo Support Dual band: 1200Mbps 0+900Mbps) Internal 2 DBi antenna	Connect serial devices to your computer's USB-C port	Data transfer speed up to 3 Mbps Max. distance 20 m



# ACT products retail packed

ACT offers a selection of high runners Retail packed.

The ACT items Retail packed are designed for easy selling in your shop, showroom or online. Integrate Retail packed items into your shop concept for easy selection by your customers.

The products are always visible and the packaging can be opened and closed again. Use the integrated eurolock Retail packed to create an attractive shop presentation.



## **ALT** USB-C Retail packed

Colour	Description	Length	Type no.
Black	USB-C - VGA female adapter	0.15 m	AC7300
Black	USB-C - HDMI female adapter, 4K @ 30Hz	0.15 m	<u>AC7305</u>
Black	USB-C - HDMI female adapter, 4K @ 60Hz	0.15 m	<u>AC7310</u>
Black	USB-C - HDMI male adapter cable, 4K @ 60Hz	2.00 m	<u>AC7315</u>
Black	USB-C - DisplayPort female adapter, 4K @ 60Hz	0.15 m	<u>AC7320</u>
Black	USB-C - DisplayPort male adapter cable 4K @ 60Hz	2.00 m	<u>AC7325</u>
Black	USB-C 4K Multiport Dock, 4K @ 30Hz	0.15 m	<u>AC7330</u>
Black	USB-C Gigabit network adapter	0.15 m	<u>AC7335</u>
Black	USB-C - 3,5mm female audio adapter cable	0.10 m	<u>AC7380</u>
Black	USB-C - USB-A female OTG adapter	0.20 m	<u>AC7340</u>
Black	USB-C - USB-A male connection cable	1.00 m	<u>AC7350</u>
Black	USB-C - USB-A adapter	-	<u>AC7355</u>
Black	USB-C Female - USB-A male adapter, USB 3.2 Gen1 (USB 3.0)	-	<u>AC7375</u>
Black	USB-A - USB-C male connection cable, USB 3.2	1.00 m	<u>AC7370</u>
Black	USB-A - USB-C connection cable USB 3.2 Gen1 (5Gbps) 60W	1.00 m	<u>AC7416</u>
Black	USB-C extension cable USB 3.2 Gen1 (5Gbps) 60W	1.00 m	<u>AC7412</u>
Black	USB-C connection cable angled USB 3.2 Gen1 (5Gbps) 60W	1.00 m	<u>AC7406</u>
Black	USB-C connection cable USB 3.2 Gen1 (5Gbps) 60W, Official USB-IF Certified	1.00 m	<u>AC7401</u>

# **ALT** Video adapters Retail packed

Colour	Description	Length	Type no.
Black	VGA connection cable male - male	1.80 m	<u>AC3510</u>
Black	VGA connection cable male - male	3.00 m	<u>AC3513</u>
Black	DisplayPort male - DVI male cable, 1080p @60Hz	1.80 m	<u>AC7505</u>
Black	DisplayPort male - DVI female adapter, 1080p @60Hz	0.15 m	<u>AC7510</u>
Black	DisplayPort male - VGA female adapter, 1080p @60Hz	0.15 m	<u>AC7515</u>
Black	Adapter VGA male - HDMI female with audio	0.34 m	<u>AC7545</u>
Black	DisplayPort - HDMI Adapter cable, 4K@30Hz	1.80 m	<u>AC7550</u>
Black	DisplayPort male - HDMI female adapter, 4K@30Hz	0.15 m	<u>AC7555</u>
Black	DVI-D - HDMI-A female adapter, 1080p @60Hz	-	<u>AC7565</u>
Black	Mini DisplayPort male - HDMI-A female	0.15 m	<u>AC7525</u>
Black	HDMI male - VGA female with audio	0.15 m	<u>AC7535</u>
Black	HDMI A male - HDMI A female adapter, down angled	0.15 m	<u>AC7570</u>

# **ALT** HDMI cables Retail packed

Colour	Description	Length	Туре по.
zwart	HDMI High Speed connection cable, version 1.4	1.50 m	<u>AC3800</u>
zwart	HDMI High Speed connection cable, version 1.4	2.50 m	AC3802
zwart	HDMI High Speed connection cable, version 1.4	5.00 m	AC3805
zwart	HDMI 8K Ultra High Speed connection cable, version 2.1	2.00 m	AC3810

## ALT DisplayPort cables Retail packed

	1.4		
Colour	Description	Length	Type no.
Black	DisplayPort cable	1.00 m	AC3900
Black	DisplayPort cable	2.00 m	AC3902
Black	DisplayPort 1.4 connection cable 8K	2.00 m	AC3910
Black	DisplayPort cable	3.00 m	AC3903



ACT	A 1:			packed
ЛЫ	Audio	cables	Retail	packed

Colour	Description	Length	Type no.
Black	Audio connection cable 3.5mm - 2x RCA, gold plated connectors	1.50 m	<u>AC3605</u>
Black	Audio connection cable Mini Jack male – RCA, gold plated connectors	5.00 m	<u>AC3607</u>
Black	3,5mm Audio connection cable, gold plated connectors	1.00 m	AC3610
Black	3.5mm Audio connection cable, gold plated connectors	5.00 m	<u>AC3612</u>
Black	SPDIF Optical audio cable TOSlink male / TOSlink male	1.20 m	<u>AC3690</u>
Black	Audio connection cable Mini Jack Male Male, gold plated connectors	10.00 m	<u>AC3613</u>
Black	Audio connection cable Mini Jack Male Male, gold plated connectors	15.00 m	<u>AC3614</u>
Black	Audio Stereo extension cable 3.5mm male - 3.5mm female, gold plated connectors	2.00 m	<u>AC3615</u>
Black	Audio Stereo extension cable 3.5mm male - 3.5mm female, gold plated connectors	5.00 m	<u>AC3617</u>
Black	Audio Splitter Mini Jack male - 2 Mini Jack female, gold plated connectors	0.15 m	AC3620

# ALT Data cables Retail packed

Colour	Description	Length	Type no.
Black	USB 2.0 connection cable	1.00 m	AC3030
Black	USB 2.0 connection cable	1.80 m	AC3032
Black	USB 2.0 connection cable	3.00 m	AC3033
Black	USB 2.0 extension cable	1.80 m	AC3040
Black	USB 2.0 extension cable	3.00 m	AC3043
Black	USB 2.0 connection cable	5.00 m	<u>AC3045</u>
Black	Mini USB connection cable, A-mini B 5P	1.80 m	<u>AC3050</u>

# ALT Network cable CAT6 U/UTP Retail packed

Colour	Description	Length	Туре по.
Black	CAT6 network cable copper	0.90 m	AC4000
Black	CAT6 network cable copper	2.00 m	AC4002
Black	CAT6 network cable copper	5.00 m	<u>AC4005</u>
Black	CAT6 network cable copper	10.0 m	<u>AC4010</u>
Black	CAT6 network cable copper	15.0 m	AC4015

# **ALT** Network accessories Retail packed

Description	Packaging	Туре по.
Modular CAT5E connector RJ45 for round stranded cable	10 pcs	<u>AC4110</u>
Modulaire CAT6 connector RJ45 for solid stranded cable	10 pcs	<u>AC4115</u>

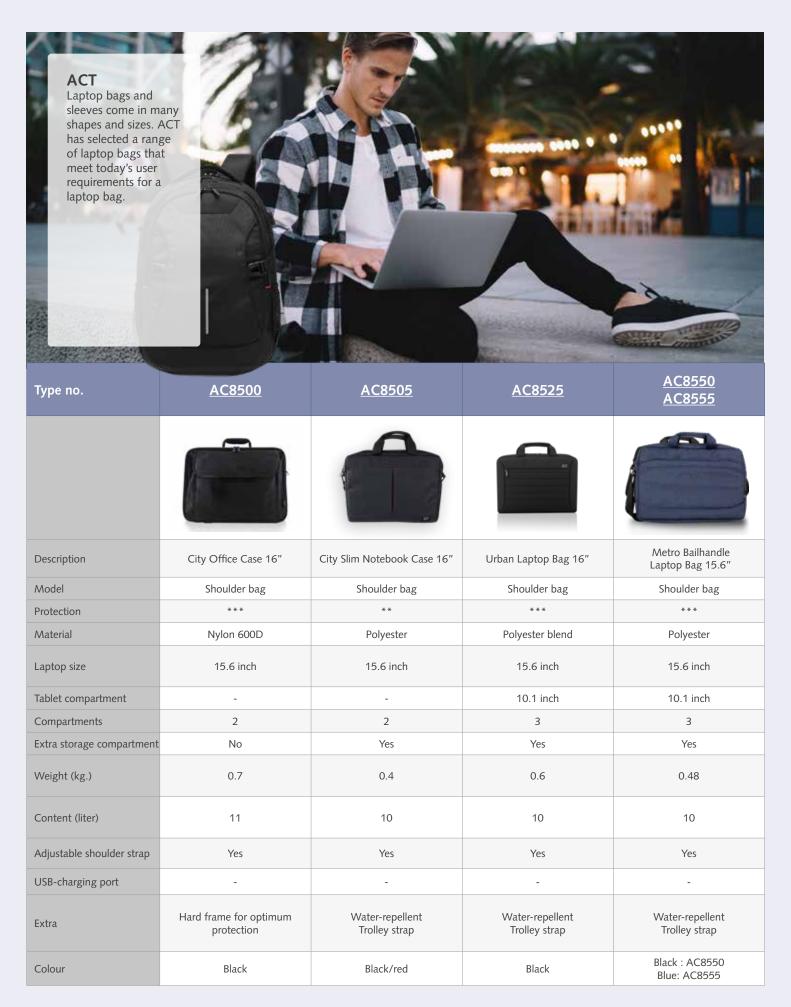
# **ALT** Power cables Retail packed

Colour	Description	Length	Туре по.
Black	Powercord Euro male - C7 female	1.50 m	AC3300
Black	Powercord CEE 7/7 male (angled) - C5	2.00 m	AC3310
Black	Powercord C13 - C14	1.80 m	<u>AC3315</u>
Black	Powercord CEE 7/7 male (angled) - C13	2.00 m	<u>AC3305</u>
Black	UTP cable boots for a 5.5 mm cable	-	<u>AC4120</u>
Black	Modular coupler RJ-45 female - RJ-45 female	_	AC4105

# **ALT** Smartphone cables

Colour	Description	Length	Type no.
Black	USB 2.0 Charging/data cable A male - micro B male, giftbox	1.00 m	<u>AC3000</u>
Black	USB 3.2 Gen1 Charging/data cable A male - C male, giftbox	1.00 m	AC3020
White	USB 2.0 Charging/data cable A male - Lightning male, MFI certified, giftbox	1.00 m	AC3011
White	USB 2.0 Charging/data cable A male - Lightning male, MFI certified, giftbox	2.00 m	AC3012
White	USB 2.0 Charging/data cable C male - Lightning male, MFI certified, giftbox	1.00 m	<u>AC3014</u>
White	USB 2.0 Charging/data cable C male - Lightning male, MFI certified, giftbox	2.00 m	<u>AC3015</u>
White	USB 2.0 Charging/data cable A male - Lightning male, MFI certified, nylon, jar display	1.00 m	AC3092
Black	USB 3.2 Gen1 Charging/data cable A male - C male, nylon, jar display	1.00 m	<u>AC3094</u>
Black	USB 2.0 Charging/data cable C male - Lightning male, nylon, jar display	1.00 m	AC3095







#### **ACT laptop bags**

The ACT bailhandles, backpacks and sleeves are trendy bags with a business touch. This series of laptop bags is suitable for both business users and consumers.

ACT bags feature plenty of storage compartments for storing documents and accessories. On the inside, there is an extra compartment for storing a tablet.





<u>AC8530</u>	<u>AC8535</u>	<u>AC8510</u> <u>AC8515</u> <u>AC8520</u>	<u>AC8540</u> <u>AC8545</u>
			ACT .
Global Backpack 15.6"	Urban Backpack 17.3"	City laptop Sleeve	Urban Laptop Sleeve 14.1"
Backpack	Backpack	Sleeve	Sleeve
* * * *	* * *	* *	* *
Polyester blend	Polyester blend	Polyester	Polyester
15.6 inch	17.3 inch	AC8510: 13.3 inch AC8515: 14.1 inch AC8520: 15.6 inch	AC8540: 14.1 inch AC8545: 15.6 inch
10.1 inch	10.1 inch	-	-
3	6	2	3
Yes	Yes	No	Yes
0.8	0.98	AC8510: 0.2 AC8515: 0.24 AC8520: 0.24	AC8540: 0.17 AC8545: 0.24
26	30	AC8510/AC8515: 3 AC8520: 4	AC8540: 3 AC8545: 4
Yes	Yes	No	-
Yes	-	-	
Additional comparments inside. With compression strap for more stability and flexibility. Water-repellent.	Padded back for extra comfort. Water-repellent.	-	Water-repellent
Black	Black	Black	Black/grey



Enjoy working on your laptop or PC with ACT's optical mice! The optical precision of these mice ensures you can keep on working. The ACT mice are equipped with a scroll wheel and work on almost any surface. The wireless optical mice come with a Nano USB receiver and feature an intelligent power-saving mode to extend battery life.



Туре по.	<u>AC5010</u>	<u>AC5005</u>	<u>AC5150</u>	<u>AC5145</u>
Description	Ergonomic vertical mouse USB	Optical mouse USB	Wireless Dual-Connect mouse	Wireless Multi-Connect mouse
Туре	Ergonomic vertical mouse with scroll wheel	Optical mouse with scroll wheel	Optical wireless mouse USB-C/USB-A dongel	Optical wireless mouse with USB-C/USB-A combi dongel, Bluetooth
Connection	USB	USB	Wireless	Wireless
DPI optical sensor max.	1000	1000	2400	2400
DPI configurable	No	No	Yes	Yes
Number of buttons	5	2	7	7
Scroll wheel	Yes	Yes	Yes	Yes
Cable length (m)	1.5	1.5	-	-
Ergonomic	Yes	-	-	-
Intelligent stand-by energy- saving function	-	-	Yes	Yes
Included	-	-	2 receivers, 1x AA battery	2-in-1 receiver, 2x AA batterij
Left- and right-handed use	-	Yes	-	-
Extra	-	-	Switch between two different devices Connect via USB-C or USB-A	Switch between two different devices Connect via USB-C, USB-A or Bluetooth







<u>AC5100</u>	<u>AC5105</u>	AC5110 AC5115 AC5120	AC5125 AC5135 AC5140	<u>AC5000</u>
Ergonomic wireless mouse	Wireless mouse	Wireless mouse	Wireless mouse	Gaming mouse USB
Optical wireless vertical mouse with scroll wheel	Optical mouse	Optical mouse	Optical mouse	Gaming mouse with lighting
Wireless	Wireless	Wireless	Wireless	USB
1600	1000	1200	1600	3200
Yes	No	Yes	Yes	Yes
5	3	4	4	6
Yes	Yes	Yes	Yes	Yes
1.5	-	-	-	1.5
Yes	-	-	-	Yes
Yes	Yes	Yes	Yes	-
Accu, USB charger cable	2x AAA batteries	1x AA batteries	2x AAA batteries	-
-	Yes	Yes	Yes	-
Built-in rechargeable Li-ion battery	-	Also available: AC5115   Red AC5120   Blue	Also available: AC5135   Red AC5140   Blue	Breathing effect: automatic colour gradient Knot-free nylon cable





Туре по.	<u>AC5700</u>	AC5710 AC5715	AC5400 AC5405	<u>AC5410</u>
Description	Wireless keyboard and mouse bundle	Wireless set with keyboard and mouse, USB-C/USB-A receiver	Multimedia keyboard	Business keyboard
Connection	Wireless (USB nano)	Wireless (2-in-1 receiver, USB-C en USB-A)	Wired (USB)	Wired (USB)
Keyboard layout	QWERTY	AC5710: QWERTY AC5715: AZERTY	AC5400: QWERTY AC5405: AZERTY	QWERTY
Cable length	-	-	1.2m	1.4m
LED indicators	Numlock, Capslock, Power status	Numlock, Capslock, Power status	Numlock, Capslock, Scroll lock	Numlock, Capslock, Scroll lock
Size (mm)	447x140x22	443x134x18	450x164x20	446x152x25
Extra	Soft keys 12 multimedia keys and optical mouse 1600 dpi Batteries included	Silent, flat keys and 13 multimedia keys Optical mouse 1600 dpi Combi receiver with USB-C and USB-A Batteries included	Special multimedia 'Hotkeys' Equipped with silent keys	Foldaway legs for ergonomic posture





<u>AC5415</u> <u>AC5425</u>	<u>AC5475</u>	AC5600 AC5605 AC5610	<u>AC5480</u>
Keyboard with backlit	Keyboard with Smartcard reader	Portable Bluetooth keyboard	Numbered keyboard
Wired (USB)	Wired (USB)	Bluetooth 3.0	Wired (USB)
AC5415: QWERTY AC5425: AZERTY	AZERTY	AC5600: QWERTY AC5605: AZERTY AC5610: QWERTZU	-
1.5m	1.5m	-	0.9m
Numlock, Capslock, Windows lock key	Numlock, Capslock, Scroll lock	Battery status indicator and easy pairing button	-
438x134x18	445x150x47	285x120x15	91x140x18
Silent, flat keys 12 multimedia keys and backlight	With integrated Smartcard reader Reads EID or Smartcard	Multimedia shortcuts which adapt to the operating system	-





Type no.	<u>AC9300</u>	<u>AC9330</u>	AC9360	
		Q		
Description	Foldable stereo headphones with 3.5mm audio jack	On-ear Headset with 3.5mm audio connection	USB-A external sound card	
Connection method	3.5 mm jack	3.5 mm jack	3.5 mm jack, USB	
Length connection cable (m)	1.5	2	0.50	
Sound output	Stereo	Stereo	Stereo	
Output channels	2.0	2.0	2.0	
Foldable	Yes	No	-	
Speaker driver	40 mm	27 mm	-	
Speaker impedance	32 Ω	32 Ω	-	
Sound control	Microphonemute, Inline volume control	Inline volume control	Volume with microphone mute, speaker mute	
Speaker sensitivity	-	96 dB	-	
Speaker frequency	20Hz - 20KHz	20 - 20000 Hz	-	
Microphone sensitivity	85 dB	58 dB	-	
Microphone frequency	1 kHz	5 - 16000 Hz	-	

# ACT Ergonomic wrist pads



Ergonomic wrist pads for supporting the wrists and preventing hand and wrist-related complaints.



Туре по.	AC8000	<u>AC8010</u>	<u>AC8005</u>
Description	Mouse pad with black leather look	Ergonomic mouse pad with wrist rest	Ergonomic wrist pad for keyboards
Suitable for	Suitable for optical and laser mice	Wrist support and prevention of hand and wrist related complaints	Wrist support and prevention of hand and wrist related complaints
Size (mm)	220 x 180 x 3 mm	240x21x212 mm	462 x 29 x 79 mm
Material	Polyurethane, rubber	Polyester, PU Gel with non-slip underside	Polyester, rubber with non-slip underside

#### ACT external hard drive enclosures

Are you going to replace your internal hard drive with an SSD or a new hard drive? Then the ACT external hard drive enclosures are the ideal solution to give your old internal hard drive a new lease of life. You will quickly and easily have extra storage space that you can easily take with you. ACT offers a solution for every type of hard drive. The enclosures are suitable for a M.2 SATA/ SSD up to 80mm with M key or B+M key. They are connected to your laptop or PC with the included USB-A and/or USB-C connection cable.

#### **USB** specifications:

USB 2.0 HighSpeed (incl. USB 1.0 and 1.1) speed up to 480Mbit/s USB 3.2 Gen1 (SuperSpeed USB) speed up to 5Gbit/s USB 3.2 Gen2 (SuperSpeed USB 10Gbps) speed up to 10 Gbit/s











<u>AC1200</u>	<u>AC1215</u>	<u>AC1510</u>	<u>AC1515</u>	<u>AC1520</u>	<u>AC1405</u>
2.5" SATA HDD/SSD enclosure	2.5" SATA HDD/SSD enclosure screwless)	2.5" SATA Adapter cable	USB 3,1 Gen1 to 2.5/3.5" SATA Adapter cable SSD/HDD	2.5"+ 3.5" IDE/ SATA Adapter	3.5" SATA HDD enclosure (screwless)
USB-A male	USB-A male	USB-A male	USB-A male	USB-A	USB-A male
SATA	SATA	SATA	SATA	SATA	SATA
USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen1 (SuperSpeed USB)
5Gbps	5Gbps	5Gbps	5Gbps	5Gbps	5Gbps
No	No	No	No	No	No
Yes	Yes	Yes	Yes	No	Yes
60 cm	60 cm	15 cm	45 cm	45 cm	60 cm
Aluminium	Plastic	Plastic	Plastic	Plastic	Plastic
USB-A cable 60cm	USB-A cable	-	Power adapter	SATA and IDE cables, Power adapter	USB-A cable 12V adapter





#### Hard disk adapter for easy cloning

If you are going to replace a hard drive, usually the data from the existing hard drive needs to be transferred to the new SSD or hard drive. The easiest way to do this is to use a hard disk adapter for cloning. The ACT HDD adapter cables (AC1510, AC1515, AC1520, AC1525, AC1500, AC1504) are perfect for data migration, hard drive cloning and data backup applications. Simply connect the hard disk to a PC or laptop with the SATA adapter cable and then data transfer, disk cloning or backup is very easy. When the HDD adapter cable supports UASP (USB Attached SCSI Protocol), you also enjoy fast data transfer. To clone your old drive, use special software. In some cases, this is included or you can search for special software via Google. Some are free and some you have to pay for.

Туре по.	<u>AC1410</u>	<u>AC1400</u>	<u>AC1500</u>	<u>AC1504</u>	<u>AC1540</u>
	The same of the sa				
Description	3.5" SATA IDE USB 2.0 HDD enclosure	3.5" SATA HDD enclosure	2.5" en 3.5" SATA Dockingstation	2.5 en 3.5" SATA Dual Dockingstation	2.5" naar 3.5" HDD/SSD Bracket, incl. SATA cable
Input	USB-A male	USB-A male	USB-A male	USB-A male	-
HDD/SSD interface	SATA + IDE	SATA	SATA	SATA	SATA
USB Standard	USB 2.0	USB 3.2 Gen1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	USB 3.2 Gen 1 (SuperSpeed USB)	-
	480Mbps	5Gbps	5Gbps	5Gbps	-
USB-C	No	No	No	No	-
UASP support	No	Yes	Yes	Yes	-
Cable length	75 cm		80 cm		50 cm
Material enclosure	Aluminium	Aluminium	Plastic	Plastic	Metal
Extra's/included	Supports hard discs up to 8TB USB-A cable 12V adapter	USB-A cable 12V adapter	Led indication On/off switch USB-A cable 12V adapter	Dual bay LED indication On/off switch Clone function USB-A cable 12V adapter	Screws and SATA cable included

#### Full HD camera with microphone



The AC7990 Full HD Conference Camera with built-in microphone takes your meetings to the next level. The camera is essential for meetings with video conference programmes such as Teams, Zoom and Google Meet.

This full HD camera provides excellent image and sound quality due to its 2 Megapixel Sony CMOS sensor and two integrated omni-directional microphones that have a capture range of 5 meters. In addition, the camera has a 105-degree viewing angle, EPTZ and image

Audio is enhanced by features such as noise cancelling and echo cancelling. Use the included remote control to operate the camera. In short, the AC7990 is indispensable during video meetings thanks to its excellent image and sound quality, wide viewing angle, large audio capture range and various mounting options.

#### Features:

- Metal Full HD camera with 2 Megapixel Sony CMOS sensor and EPTZ
- Suitable for monitor mounting, wall mounting (mounting materials included) and on a tripod
- Wide 105-degree viewing angle and image optimisation: automatic white balance, gain control and backlight compensation
- Excellent sound: two integrated 360-degree microphones with a pick-up range of 5 meters
- Audio optimisation: noise cancelling and echo cancelling
- Operable with the supplied remote control: zoom, On-Screen Display menu, camera on/off
- Ideal for video chat platforms such as Teams, Zoom and Google Meet
- Power supply via USB
- Type no. AC7990













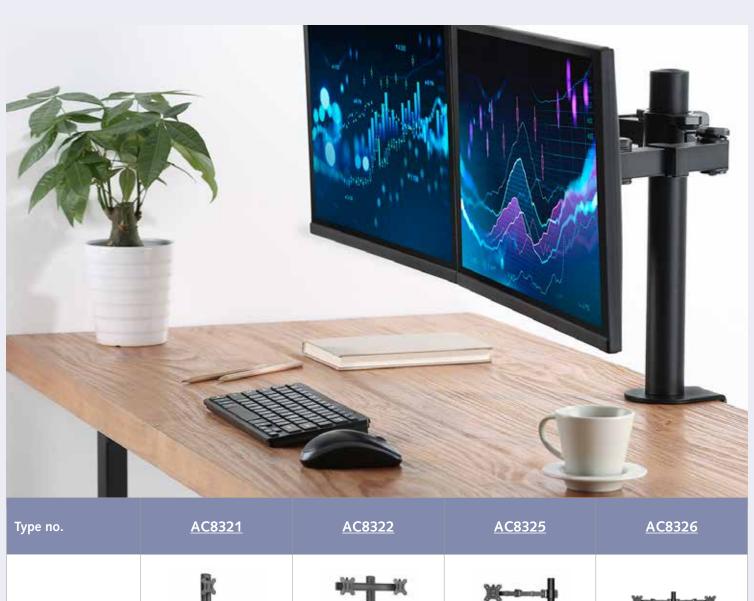
Type no.	<u>AC8301</u>	<u>AC8305</u>	<u>AC8302</u>	<u>AC8303</u>
	*	- 1 t	××	New Mark
Description	Monitor arm 1 screen	Monitor arm with laptop arm 1 screen	Monitor arm 2 screens	Monitor arm 3 screens
Screen size min./max.	10-32 inch	10-32 inch	10-32 inch	10-27 inch
Mounting	Desk clamp Grommet	Desk clamp Grommet	Desk clamp Grommet	Desk clamp Grommet
Max. weight	8 kg	8 kg	8 kg	7 kg
Pivot points	3	3	3	3
Tilt	180 °	90 °	180 °	180 °
Rotation	360 °	360 °	360 °	360 °
Swivel	360 °	180 °	360 °	360 °
Adjustable height (cm)	0 - 45	0 - 45	0 - 45	0 - 45
Adjustable depth (cm)	10 - 44	10 - 44	10 - 44	15 - 66
VESA min./max.	75x75 100x100	75x75 100x100	75×75 100×100	75x75 100x100
Extra		Suitable for laptops up to 15.6" and 4kg.	-	-





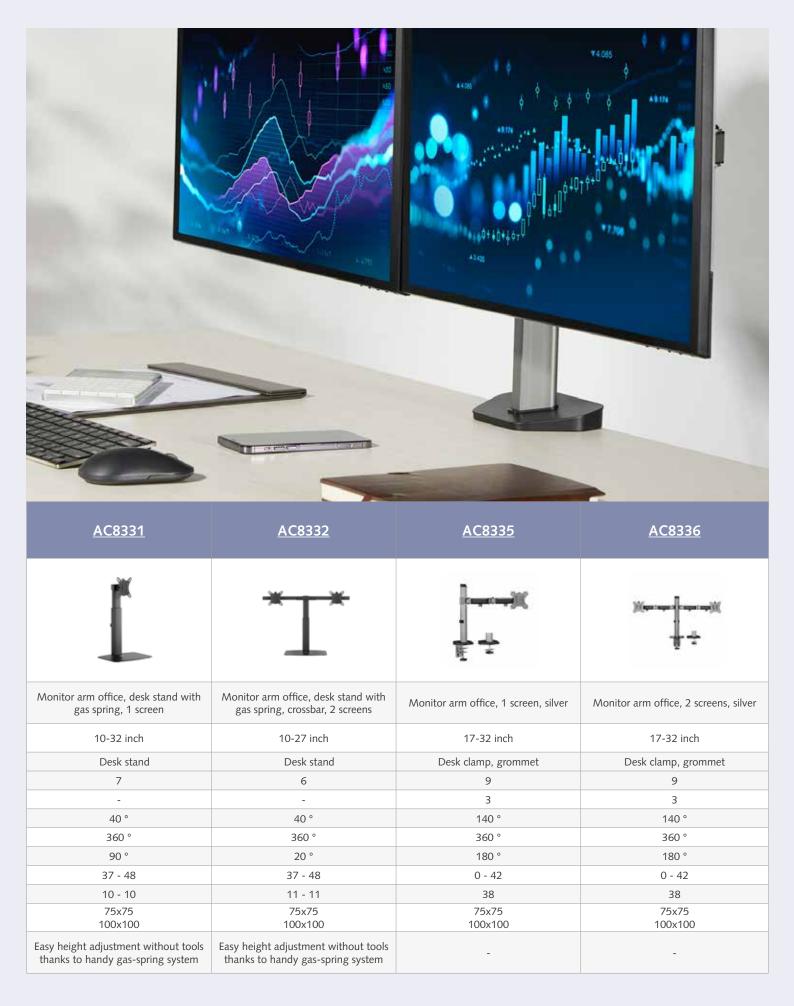
<u>AC8304</u>	<u>AC8315</u>	<u>AC8311</u>	AC8312	AC8320
*	# K	Sa .		* *
Monitor arm, 4 screens	Monitor arm, crossbar 2 screens	Monitor arm office with gas spring, 1 screen	Monitor arm office with gas spring, 2 screens	Monitor arm desk stand 2 screens
10-32 inch	13-27 inch	13-27 inch	13-27 inch	13-32 inch
Desk clamp Grommet	Desk clamp Grommet	Desk clamp Grommet	Desk clamp Grommet	Desk stand
8 kg	10 kg	6,5 kg	6,5 kg	8 kg
3	2	3	3	3
180 °	60 °	135 °	135 °	90 °
360 °	360 °	360 °	360 °	360 °
360 °	30 °	360 °	360 °	180 °
0 - 88	0 - 45	0 - 48	0 - 48	2 - 46
10 - 40	-	11 - 45	11 - 45	-
75x75 100x100	75×75 100×100	75x75 100x100	75x75 100x100	75x75 100x100
-	Crossbar: create more space on your desk	Adjustable by gas spring system Extension cable for USB, microphone + speaker	Adjustable by gas spring system Extension cable for USB, microphone + speaker	-



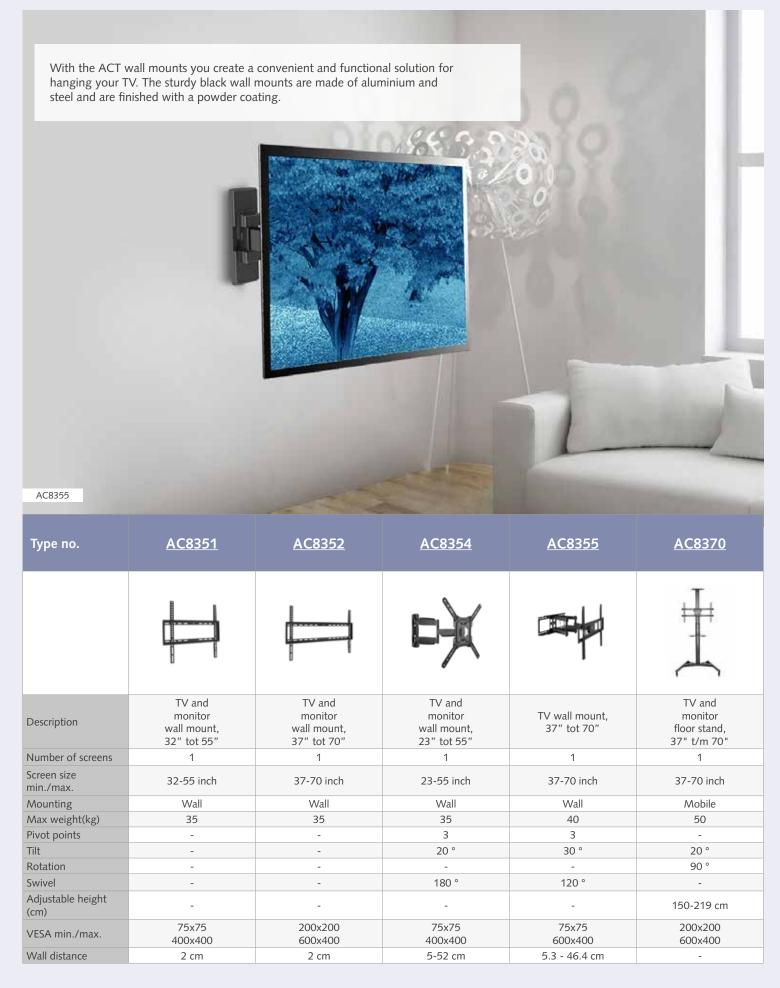


туре по.	<u>AC032 I</u>	<u>AC0322</u>	<u>AC6323</u>	<u>AC6320</u>
		# <b>\</b>	*	Ţij )()(
Description	Monitor arm office, 1 screen, easily adjustable in height	Monitor arm office, crossbar, 2 screens, easily adjustable in height	Monitor arm office solid pro, 1 screen	Monitor arm office solid pro, 2 screens
Screen size min./max.	10-32 inch	10-27 inch	10-32 inch	10-32 inch
Mounting	Desk clamp, grommet	Desk clamp, grommet	Desk clamp, grommet	Desk clamp, grommet
Max. weight	8	7	12	12
Pivot points	-	-	3	3
Tilt	30 °	30 °	70 °	70 °
Rotation	360 °	360 °	360 °	360 °
Swivel	60 °	30 °	180 °	180 °
Adjustable height (cm)	20 - 40	20 - 40	0 - 35	0 - 35
Adjustable depth (cm)	10 - 10	11 - 11	0 - 38	0 - 38
VESA min./max.	75x75 100x100	75x75 100x100	75x75 100x100	75x75 100x100
Extra	Min. distance from wall to screen: 12cm	Min. distance from wall to screen: 12cm	Hidden cable management	Hidden cable management



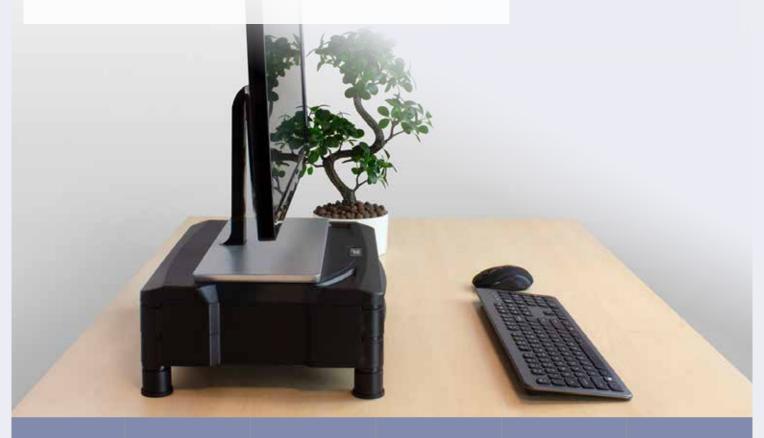








The ACT monitor risers bring your monitor to a comfortable level. With pratical drawers to store your A4-size papers and accessories.



Туре по.	<u>AC8200</u>	<u>AC8205</u>	<u>AC8210</u>	<u>AC8215</u>	<u>AC8220</u>	
Description	Monitor riser with practical storage drawer	Additional stackable columns for AC8200	Monitor riser with practical storage drawer	Monitor riser with 2 practical storage drawers	Additional stackable columns for AC8210/15	
Туре	Monintor riser	4 stackable columns	Monitor riser	Monitor riser	4 stackable columns	
Laptop/ monitor size	tot 17"en 27 kg	-	tot 32″en 10 kg	tot 32″en 10 kg	-	
Extra	Height adjustable 7.2 or 10 cm Tray for A4 paper and accessories	Suitable for AC8200 For 5 cm extra height	Height adjustable 6 or 9 cm Extra wide 29x36cm drawer for A4 paper and accessories	Height adjustable 10 or 13cm Two extra-wide 29x36cm drawers for A4 paper and acces- sories	Suitable for AC8210 and AC8215 For 3 cm extra height	

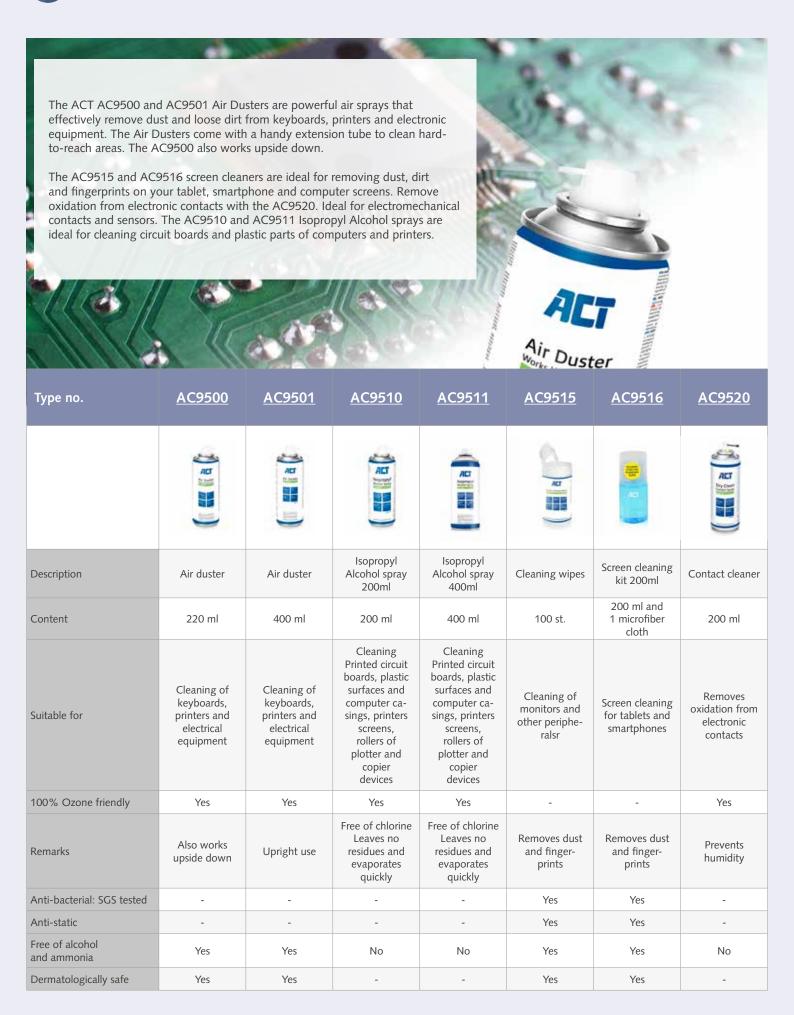




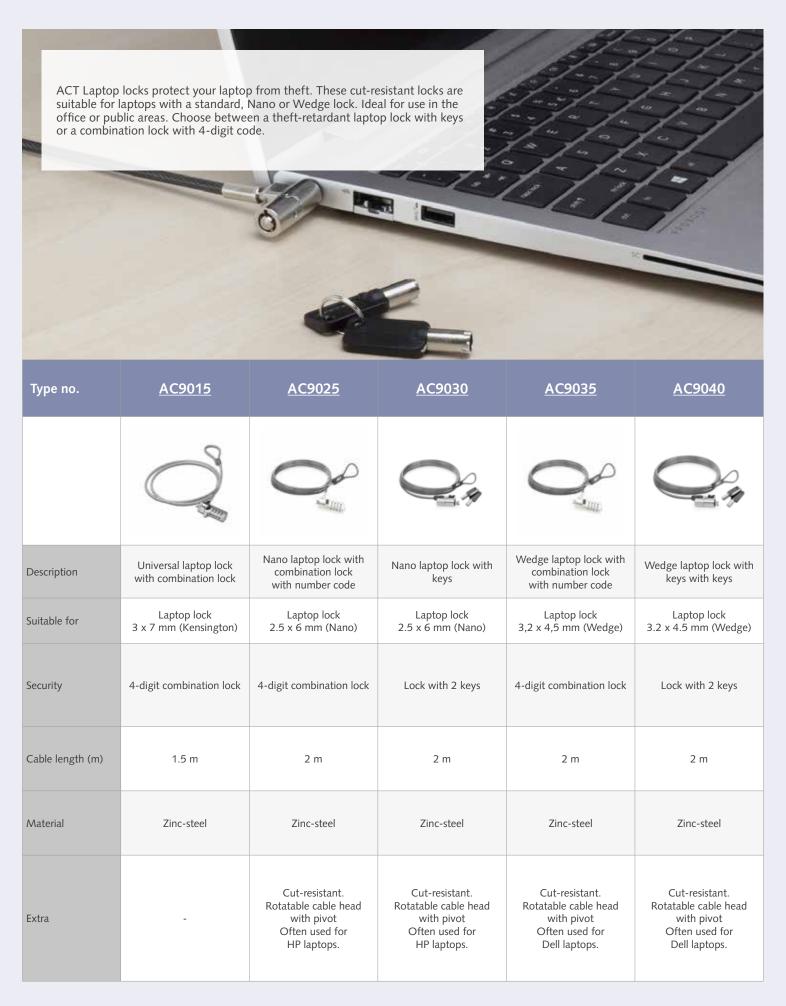
Type no.	<u>AC8125</u>	<u>AC8115</u>	<u>AC8120</u>	<u>AC8130</u>
			A	
Description	Laptop stand aluminium, infinitely adjustable height, detachable USB-C docking station	Laptop stand aluminium	Laptop stand aluminium, foldable, height adjustable in 7 positions	Laptop stand aluminium
Max. Laptop size	15.6"	15.6"	15.6"	15.6"
Fan	No	No	No	No
USB ports	2x USB-A 5Gbps	-	-	
Adjustable viewing angle	Yes	No	Yes	No
Power supply	via USB-C	-	-	-
Material	Aluminium	Aluminium	Aluminium	Aluminium
Extra	PD Pass-through port 100W, 2x USB-A ports, 1x HDMI port (max. 4K@60Hz), Gigabit LAN port and card reader	Viewing angle: 20°	Thin foldable design 7 different viewing angles	Viewing angle: 13°













#### **ACT Cubical Power Block**



The ACT Cubical Power Block lets you connect 3 electrical devices and charge USB devices at the same time.

The USB ports together deliver 2.4A and are equipped with overcurrent and short-circuit protection. The three sockets are equipped with child protection. Place the Power Block on your desk. The included adhesive pad ensures that the Power Block stays neatly in place. Switch all sockets and USB ports on or off at once with the luminous on/off switch.

ACT Power strips for connecting computers, audio/video equipment and other household appliances.

The slim design fits perfectly with the design of modern electronics. With these child-friendly power strips, you don't have to worry about anything!

#### **ACT Cubical Power Block**





AC2415

3-fold, 1.5m, white







AC2410

Power Block 2x USB-C & 2x USB-A

Power Block 3-fold, 3x USB-A 1.5m, black

AC2400

AC2405

Power Block
3-fold, 3x USB-A

1.5m, white

Power Block 3-fold, 3x USB-A 3m, white

### ACT Cubical Power Block

#### Type E (Belgium) - Socket





AC2435

Power Block 2x USB-C & 2x USB-A 3-fold, 1.5m, white

AC2430

Power Block 3-fold, 3x USB-A 1.5m, white

## **ACT Power Strips**

## Type F - Socket









#### AC2455

5-fold 1.5m, white flat plug

AC2450

6-fold 1.5m, black Surge protection

<u>AC2460</u>

6-fold 3m, black

#### AC2470

Extension cable 10m, black

## ACT - Serial cables, D-Sub cables, modular cables (RJ11/12/45) and connectors



ACT supplies a complete range of cables, connectors and adapter cables. Below is a selection of serial cables, D-Sub cables, RJ11 cables and connectors. Check our website for a complete overview.



#### ALT Serial nullmodem cable



Description	1.8m	3m	5m
9 pin D-sub female - 9 pin D-sub female, Wiring: (1+6)-4, 2-3, 3-2, 4-(1+6), 5-5, 7-8, 8-7	<u>AK7102</u>	<u>AK7103</u>	<u>AK7105</u>

# **ALT** Serial cable 1:1 connected



Description	1m	1.8m	3m	5m	10m
9-pin D-sub male - 9 pin D-sub female	AK2304	AK2305	<u>AK2306</u>	<u>Ak2307</u>	AK2309
9-pin D-sub female - 9 pin D-sub female		AK2315	AK2316	AK2317	

## **ACT** Serial printer cable



Description	1.8m	3m	5m
9-pin D-sub male - 9 pin D-sub male, Wiring: (1+8)-(1+8) 2-3, 3-2, (4+6)-(4+6), 5-5.	<u>AK7302</u>		
9-pin D-sub male - 9 pin D-sub female, Wiring: (1+8)-(1+8) 2-3, 3-2, (4+6)-(4+6), 5-5.	<u>AK7312</u>	<u>AK7313</u>	
9-pin D-sub female - 9 pin D-sub female, Wiring: (1+8)-(1+8) 2-3, 3-2, (4+6)-(4+6), 5-5.	<u>AK7322</u>	<u>AK7323</u>	<u>AK7324</u>

# **ALT** D-Sub adapters



Description	
9-pin male to 9-pin male	<u>AB9013</u>
9-pin male to 9-pin female	<u>AB9023</u>
9-pin female to 9-pin female	AB9035

# ALT D-Sub nullmodem adapter



· ·	
Description	
9-pin female to 9-pin male	AB9803

# **ALT** 9-pin D-Sub connector



Description	
male	<u>SCP09M</u>
female	<u>SCP09F</u>

# **ALT** 9-pin D-Sub connector hood



	(act)
Description	
Metal	<u>DGP09E</u>
Plastic, black	<u>AFT09</u>
Plastic ivory	DGP09I

# **ALT** Telephone cable



Description	0.5m	1m	2m	3m	5m	10m
RJ12 black		<u>TD5701</u>	TD5702	<u>TD5703</u>	TD5705	<u>TD5710</u>
RJ12 white		<u>TD5601</u>				
RJ11 black		TD5501	TD5502	TD5503	TD5505	TD5510
RJ11 white	TD5400	<u>TD5401</u>	TD5402	TD5403	TD5405	
RJ11 RJ45 black		<u>TD5306</u>	TD5307	TD5308	TD5309	TD5311
RJ11 RJ45 white		TD5301	TD5302	TD5303	TD5305	TD5310

# **ALT** Mountable Heavy Duty Adapter RJ-45 to 9-pin D-Sub



Description	
RJ-45 female to 9-pin D-Sub male	<u>TD09M8</u>
RJ-45 female to 9-pin D-Sub female	TD09F8

INDLX							
64172K 8	AC2435112	AC3617	89	AC5150	. 92	AC7021	74
64172K 13	AC245061	AC3620	58	AC5400	. 94	AC7021	78
64172K 17	AC2450112	AC3620	89	AC5405	. 94	AC7022	74
64172K21	AC245561	AC3690	58	AC5410	. 94	AC7022	78
AB373051	AC2455112	AC3690	89	AC5415	. 95	AC7023	74
AB374051	AC246061	AC3800	49	AC5425	. 95	AC7023	78
AB3750 51	AC2460112	AC3800	88	AC5475		AC7024	
AB375551	AC247061	AC3802		AC5480		AC7024	
AB376051	AC2470112	AC3802		AC5600		AC7025	
AB376551	AC247059	AC3805		AC5605		AC7025	
AB376651	AC300089	AC3805		AC5610		AC7030	
AB3769 49	AC301189	AC3810		AC5700		AC7030	
AB3771 49	AC301789	AC3810		AC5710		AC7035	
AB398549	AC301289	AC3900		AC5715		AC7035	
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RL172039	RL230829	RL260038	RL341540	RL395138
RL172539	RL230929	RL260138	RL342040	RL410129
RL173039	RL231029	RL260238	RL342540	RL410229
RL175039	RL231129	RL260338	RL343040	RL410329
RL180039	RL231229	RL260538	RL344040	RL410429
RL180139				
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RL180239	RL231429	RL262038	RL345140	RL410629
RL180339	RL231529	RL265138	RL350038	RL410729
RL180539	RL231629	RL270138	RL350138	RL410829
RL181039	RL231729	RL270238	RL350238	RL410929
RL181539	RL231829	RL270338	RL350338	RL411029
RL182039	RL231929	RL270538	RL350538	RL411129
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RL183039	RL232129	RL280138	RL351538	RL411329
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RL200038	RL232329	RL280338	RL353038	RL411529
RL200138	RL232429	RL280538	RL355038	RL411629
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RL205138	RL240329	RL295138	RL361538	RL412529
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RL4205		RL450830		RL4711		RL7002		RL7841	
RL4206		RL450930		RL4712		RL7003		RL7842	
RL4207		RL451030		RL4713		RL7005		RL7843	
RL4208	. 29	RL451130	)	RL4714	30	RL7010	38	RL7845	37
RL4209	. 29	RL451230	)	RL4715	30	RL7015	38	RL7851	37
RL4210	. 29	RL451330	)	RL4716	30	RL7020	38	RL7852	37
RL4211		RL451430		RL4717		RL7030		RL7853	
RL4212		RL451530		RL4718		RL7050		RL7855	
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RL4214		RL451730		RL4720		RL7301		RL7862	
		RL451830						RL7863	
RL4215				RL4721		RL7302			
RL4216		RL451930		RL4722		RL7305		RL7865	
RL4217		RL452030		RL4723		RL7310		RL7871	
RL4218		RL452130		RL4724		RL7315		RL7872	
RL4219		RL452230		RL4725		RL7320		RL7873	
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RL4221	. 29	RL452430	)	RL4727	30	RL7340	40	RL7901	38
RL4222	. 29	RL452530	)	RL4728	30	RL7350	40	RL7902	38
RL4223	. 29	RL452630	)	RL4729	30	RL7501	38	RL7903	38
RL4224		RL452730		RL4730		RL7502	38	RL7905	
RL4225		RL452830		RL5101		RL7503		RL7910	
RL4226		RL452930		RL5102		RL7505		RL7915	
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RL4304	. 30	RL460730	)	RL5205	40	RL7602	38	RL8003	38
RL4305	.30	RL460830	)	RL5301	40	RL7603	38	RL8005	38
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RL4321		RL462430		RL5702		RL7762		RL8251	
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RL4506		RL470930		RL5951		RL7795		RL8400	
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RI 8402	30	RL8820	38	RL9652	38	SB0031	73	SD6019	36
RL8403		RL8825		RL9653		SB0032			16
RL8405		RL8830		RL9680		SB0033			16
RL8407		RL8850		RL9695		SB0036			12
RL8410		RL8851		RL9700		SB0037			12
RL8412		RL8900		RL9701		SB2198			36
RL8415		RL8901		RL9702		SB2199			12
RL8417		RL8902		RL9703		SB2200			63
RL8420		RL8903		RL9704		SB2203			63
RL8451		RL8905		RL9705		SB2205			63
RL8452		RL8907		RL9707		SB2218			63
RL8500		RL8910		RL9710		SB2220			63
RL8501		RL8915		RL9712		SB2230			63
RL8502		RL8920		RL9715		SB2250			63
RL8503		RL8925		RL9717		SB2398			63
RL8505		RL8930		RL9720		SB2401			63
RL8510		RL8950		RL9722		SB2402			8
RL8515		RL8951		RL9725		EC2402			13
RL8520		RL8995		RL9727		SB2403			17
RL8530		RL9000		RL9730		EC2403			21
RL8550		RL9001		RL9735		SB2405			113
RL8551		RL9002		RL9740		SB2408			113
RL8600		RL9003		RL9745		SB2412			8
RL8601		RL9005		RL9751		SB2413			13
RL8602		RL9010		RL9752		SB2415			17
RL8603		RL9015		RL9753		SB2432			21
RL8605		RL9020		RL9900		SB2498			17
RL8607		RL9025		RL9901		SB2502			17
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RL8615		RL9051		RL9904		SB2530			17
RL8617		RL9500		RL9905		SB2550		TD11118	
RL8620		RL9501		RL9907		SB2602		TD1138	
RL8622		RL9502		RL9910		SB3002			12
RL8623		RL9503		RL9915		SB3003			16
RL8625		RL9505		RL9920		SB3005			20
RL8630		RL9510		RL9925		SB3010			36
RL8635		RL9515		RL9930		SB3011			12
RL8640		RL9520		RL9950		SB3013			16
RL8645		RL9525		RL9951		SB3016		TD4102	
RL8650		RL9530		RL9952		SB3017			36
RL8651		RL9550		RL9953		SB3019			12
RL8695		RL9551		RL9980		SB3028			16
RL8701		RL9600		RL9982		SB3029			20
RL8702		RL9601		RL9990		SB3031			36
RL8703		RL9602		RL9991		SB3040			12
RL8705		RL9603		RL9992		SB3041			16
RL8707		RL9604		RL9993		SB3042			20
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RL8715		RL9607		RL9996		SCP09F			12
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RL8730		RL9612		RN3022		SD5008			20
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RL8751		RL9617		SB0002		SD5009			19
RL8795		RL9620		SB0003		SD5018			19
RL8795		RL9625		SB0004		SD5019			19
RL8800		RL9625		SB0005		SD5019			36
RL8801		RL9627		SB0006		SD5021			19
RL8802		RL9630		SB0007		SD6008			19
RL8803		RL9635		SB0008		SD6009			20
RL8805		RL9640		SB0014		SD6009			20
RL8810		RL9645		SB0021		SD6018			20
RL8815		RL9651		SB0030		SD6019			113

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TD5305113	TR0031 43	XS100H17
TD5306113	TR0032 43	XS305B17
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TD5310113	TR0042 43	XS610313
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TD5402 113	TR0056 43	XS612013
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TR0011 43	TT451917	
TR0012 43	TT452017	
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TR0021 43	TT452517	
TR0022 43	TT452617	
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TR002343	WL2000 13	
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