DK6000A data cable F/FTP Cat 6A B2ca LSFH 23AWG



Category-6A and B2ca Euroclass data cable, F/FTP type (Overall and individual shielding of each twisted pair), with copper conductor and LSFH sheath (Low Smoke Free of Halogen), violet colour.
It achieves a bandwidth up to 650 MHz (higher than the 500 MHz specified by the standard).
Euroclass B2ca is intended for installations in buildings with high occupancy levels, such as airports, hospitals, shopping centres, schools and universities, where high levels of fire safety are required. This classification certifies high performance in terms of reaction to fire, helping to limit flame propagation and the emission of smoke and flaming droplets, in accordance with the parameters established for this Euroclass.
This cable, due to its technical characteristics, is recommended for PoE++ applications (Type 3 and Type 4).

Ref.	219342
Logical ref.	CAT6AL500V
EAN13	8424450336953

Other features	
Colour	Violet
Length	500.00 m

Packaging info	
Reel	500 m
Pallet	9000 m

Physical data	
Net weight	58.00 g
Gross volume	0.11 dm³
Gross weight	60.00 g
Width	7.00 mm
Height	1,000.00 mm
Depth	7.00 mm
Main product weight	58.00 g

Highlights

- F/FTP type data cable

- Solid copper central conductor (23AWG)
- B2ca s1a,d0,a1 Euroclass recommended for sensitive installations (Hospitals, airports...)
- Compatible with PoE/PoE+/PoE++ (Power over Ethernet) technology, allowing network devices to be powered through the same cable
- Aluminium/polyester foil between copper pairs and aluminium/polyester foil between copper pairs and outer sheath
- LSFH (Low Smoke Free of Halogen) outer sheath
- Nominal velocity ratio of 68%

Discover

Category 6A

Data cable category Cat 6A (augmented) has its origins on Cat 6 and it is backwards compatible, with the standards of the inferior categories (Cat 6/5e and Cat 3). Category 6A evolves over category 6, allowing to achieve transmission frequencies of up to 500 MHz (in each pair) and 10 Gbps of throughput. It includes characteristics and specifications to avoid crosstalk and noise. This type of data cable can be used in 10BASE-T, 100BASE-T, 1000BASE-T and 10GBASE-T compliant systems.

Our category 6A cables are characterized for:

- Comply with TIA/EIA-568B.2-1
- Transfer rate up to 10Gbps
- Frequency range of up to 650 MHz (higher than the 500 MHz specified by the standard)
- Nominal impedance of 100 ohms
- Maximum resistance per conductor below 9.38 ohms/100m

Compatibility of RJ45 connectors with Televes data cables:
OK Compatible
OK* Compatible, but there are better choices
X Incompatible
** Mechanical compatibility

Reference		CAT 6							CAT 6A				CAT 7	CAT 7A
		212201	212330	2123	212302	212305	212310	212101	219302	219312	219322	219332	219102	219202
Female connectors	209901/209907	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209905	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209921/209925	OK	OK	OK	OK	OK	OK	X	X	OK	X	OK	X	X
	209926	OK	OK	OK	OK	OK	OK	X	X	OK	X	OK	X	X
	209903	OK*	OK*	OK*	OK*	OK*	OK*	OK	X	X	X	X	X	X
	209923	OK*	OK*	OK*	OK*	OK*	OK*	OK	OK	OK*	OK	OK*	**	**
	209929/209501	OK*	OK*	OK*	OK*	OK*	OK*	OK	OK	OK*	OK	OK*	**	**

Male connectors	**209902**	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209961/209962	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209904	OK*	OK*	OK*	OK*	OK*	OK*	OK	X	X	X	X	X	X
	209906	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209965/209966	OK	OK	OK	OK	OK	OK	X	X	X	X	X	X	X
	209922	OK*	OK*	OK*	OK*	OK*	OK*	X	X	OK	X	OK	X	X
	209924	OK*	OK*	OK*	OK*	OK*	OK*	OK*	OK	OK*	OK	OK	**	**

What is the PoE technology?

PoE (Power over Ethernet) technology enables the simultaneous transmission of power and data over the same Ethernet network cable, eliminating the need for separate power supplies. Currently, there are three main standards: IEEE 802.3af (PoE), IEEE 802.3at (PoE+), and IEEE 802.3bt (PoE++/4PPoE).
The latter defines two additional types (Type 3 and Type 4) with higher power levels, making four PoE levels in total.
The three aspects that differentiate the different types of PoE are:

- Maximum PSE (Power Sourcing Equipment) Power: Indicates the maximum amount of electrical power that can be supplied by an equipment over the Ethernet cable.
- Power for the PD (Powered Device): This is the electrical power that can be received by the device powered by the cable.
- Number of Twisted Pairs Used: Refers to how many twisted pairs in the Ethernet cable are used to deliver electrical power.

Standard	Type of PoE		Maximum PSE Power	Power for the PD	No. of Pairs Used
IEEE 802.3af	Type 1	PoE	15.4W	12.95W	2
IEEE 802.3at	Type 2	PoE+	30W	25.5W	2
IEEE 802.3bt	Type 3	PoE++ 4PPoE	60W	51W	4
	Type 4		90-100W	71W	4

Recommended uses according to PoE type:

- Type 1: IP phones, basic IP cameras. low-demand Wi-Fi access points, sensors or simple IoT devices.
- Type 2: Dual band Wi-Fi access points, IP motion cameras (PTZ), IP video phones, alarm systems.
- Type 3: Wi-Fi 6 / Wi-Fi 6E access points, heated PTZ cameras, multimedia terminals, video conferencing equipment.
- Type 4: Monitors or touch screens, desktops, high-performance network equipment.

Devices compatible with a specific type of PoE can also be powered using a higher type, which provides greater versatility and scalability in installations.
The recommended data cables and connectors for Types 3 and 4 are CAT6A and above with shielding. This recommendation is based on their better ability to dissipate the heat generated during the transmission of electrical power.
CAT6A UTP cables and connectors are technically compatible with PoE++ technology, but they may present limitations over distances greater than 55 m. Since they lack shielding, thermal dissipation is less efficient, which can cause voltage drops along the run and affect the proper operation of the powered device. This also happens with CAT5e and CAT6; they are compatible with PoE++ but not recommended for distances over 55 m.
Main advantages of PoE technology in installations:

- Quick and cost-effective installation by using the same cable for power and data transmission.
- Greater installation flexibility as there is no need to rely on auxiliary power sockets.
- More efficient management and optimised maintenance thanks to the monitoring and administration of the power supply of all equipment from a single point.
- Cost reduction by avoiding electrical conduits and external power supplies.
- Increased safety by minimising electrical risks in the installation, thanks to the use of low voltage.

Televes®

Technical specifications : Ref. 219342

Model		DK6000A																
Type		F/FTP																
Euroclass		B2ca																
Euroclass: Smoke Production		s1a																
Euroclass: Flaming droplets		d0																
Euroclass: Acidity		a1																
Categorie		Cat 6A																
Transmission bandwidth		650MHz																
Transfer rate		10Gbps																
Conductor Diameter	in	0.022																
Conductor Material		Solid copper																
Conductor type AWG		23																
Conductor isolation Diameter	in	0.051																
Conductor isolation Material		Polyethylene																
Crucifix filler		No																
Shielding foil of pairs		Aluminium + Polyester																
Outer shielding braid		Aluminium																
Drain wire Diameter	in	0.016																
Drain wire Material		Tinned copper (CuSn)																
Outer sheath Diameter	in	0.287																
Outer sheath Material		LSFH																
Outer sheath Thickness	in	0.024																
Rip cord		No																
Spark Test	Vac	3000																
PoE Standard		IEE 802.3bt																
PoE type		PoE++																
Nominal impedance	Ω	100																
Conductor resistance	Ohm/100 m	< 9.38																
Nominal speed	%	68																
Working voltage	V	300																
Operating temperature	°F	-13 ... 158																
Frequencies		1 MHz	4 MHz	8 MHz	10 MHz	16 MHz	20 MHz	25 MHz	31,25 MHz	62,5 MHz	100 MHz	200 MHz	250 MHz	300 MHz	400 MHz	500 MHz	600 MHz	650 MHz
Attenuation (max.)	dB/100m	2.1	3.8	5.3	5.9	7.5	8.4	9.4	10.5	15	19.1	27.6	31.1	34.3	40.1	45	--	--
Attenuation (typ.)	dB/100m	2	3.8	5.2	5.8	7.5	8.2	9.2	10.2	14.5	18.7	27	30.5	34	39.9	44.1	49.7	52
NEXT (min.)	dB/100m	74.3	65.3	60.8	59.3	56.2	54.8	53.3	51.9	47.4	44.3	39.8	38.3	37.1	35.3	34	--	--
NEXT (typ.)	dB/100m	86.2	81.2	74.7	72.6	72.4	68.3	66.1	64.9	60.1	55.3	50.2	49.4	48.5	43.6	40.4	33.7	31.9
PS NEXT (min.)	dB/100m	72.3	63.3	58.8	57.3	54.2	52.8	51.3	49.9	45.4	42.3	37.8	36.3	35.1	33.3	32	--	--
PS NEXT (typ.)	dB/100m	84.4	79.7	72.2	70.5	69.8	66.1	63.7	62.4	57.9	52.7	46.9	46.6	45.3	40.4	36.3	31.8	30.5
ACR-N (min.)	dB/100m	72.2	61.5	55.5	53.4	48.7	46.4	43.9	41.4	32.4	25.2	12.2	7.2	2.8	-4.8	-12	--	--
ACR-N (typ.)	dB/100m	84.2	77.4	69.4	66.5	64.8	59.8	56.5	54.2	44.8	35.9	22.4	18.2	14.2	3.7	-4.6	-16	-20.1
PS ACR-N (min.)	dB/100m	70.2	59.5	53.5	51.4	46.7	44.4	41.9	39.4	30.4	23.2	10.2	5.2	0.8	-6.8	-14	--	--
PS ACR-N (typ.)	dB/100m	82.4	75.8	67	64.6	62.2	57.6	54.2	51.8	42.7	33.3	19.1	15.5	11.2	0.9	-8.5	-17.8	-21.2
ACR-F (min.)	dB/100m	67.8	55.8	49.7	47.8	43.7	41.8	39.8	37.9	31.9	27.8	21.8	19.8	18.3	15.8	14	--	--
ACR-F (typ.)	dB/100m	80.2	68.5	63.5	62.3	62.8	65.3	58.9	53.1	48.5	40.8	37.1	34	34	28.7	29.4	31.3	25.9
PS ACR-F (min.)	dB/100m	64.8	52.8	46.7	44.8	40.7	38.8	36.8	34.9	28.9	24.8	18.8	16.8	15.3	12.8	11	--	--
PS ACR-F (typ.)	dB/100m	77.8	66.3	61.2	60.2	61.9	63.5	57.5	52.5	46.5	38.3	36.2	31.1	31.7	27.2	27.8	27	25.1
Return losses (min.)	dB	20	23	24.5	25	25	25	24.3	23.6	21.5	20.1	18	17.3	16.8	15.9	15	--	--
Return losses	dB	26.7	30.9	37.9	38.5	33.1	34.2	32.5	34.4	32.8	29.9	28	27.1	25.3	23.8	22.2	19.3	18.5