

FIBRAIN DATA



CONTENT

3	Introduction
4	FibrainDATA structured cabling
8	Installation cables
9	Express 5e
10	Quick 6
11	Rapid 6 _A
12	Ultra 7
13	Ultra 7 _A , 8
14	Voice
15	Certificates
16	Keystone modules
18	Keystone modules technology
19	Ordering information
20	Patch panels
21	0.5U Patch panels
22	1U Patch panels
23	Other patch panels
24	Patch panels technology
25	Certificates
26	Patch cords
28	Patch cables technology
29	Manufacturing capabilities
30	Ordering information
31	Installation equipment
32	45x45 mm system
33	50x50 mm system
34	Distribution points
35	Standing cabinets
36	Hanging cabinets
37	Cabinet accessories
38	Power distribution strips
40	LOGIWIRE house cabling
41	Multimedia house cabling system possibilities
42	Available solutions
43	Other products



Why should you choose FibrainDATA?

Introduction - FIBRAIN DATA Structured Cabling System

Structured cabling has become a part of our life and exists in each place of the entire world. Quality requirements and system's durability drive its constant development. We are constantly evolving as presence of sophisticated solutions on the market give us more possibilities to develop and progress. Exceeding the norms, making an effort to fulfill users' requirements, ensuring system's durability for at least 25 years - these are the main goals we have in mind when designing FIBRAIN DATA system. Thanks to dynamically developing R&D department and well - equipped laboratory we are able to achieve these aims and provide the best parameters.

Company

The company's mission is a partnership and co-operation with local and foreign companies in sales and distribution of the most modern IT technologies. Our goal is to create reliable brand. Furthermore, highly specialized employees are the key to successful project implementation. Our technical advisers can help choosing the right component and also ensuring its proper installation. We are the producer of systems based on different transmission media. We offer customized solutions tailored to meet individual requirements.

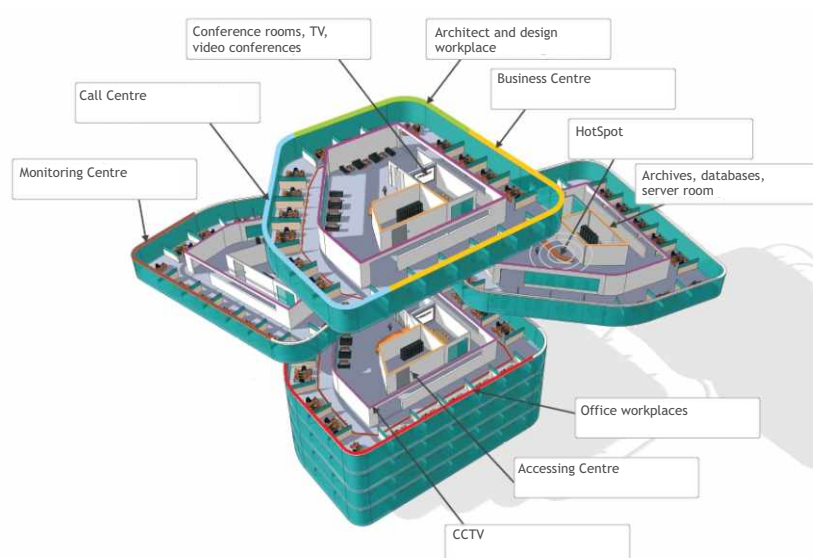
Knowledge

Experienced employees in R&D department, Structured Cabling Department and Design departments form our young, creative and passionate, yet already vastly experienced team of experts. Having one of the best-equipped laboratories in Europe, we are able to test our systems operation in different conditions. The appropriate choice of materials used for production of individual components ensure the best system's transmission parameters and its operation during for at least 25 years, at zero infrastructure- induced bit errors.

System

The main aim of FIBRAIN DATA is to create a solution, adjusted to the customer's needs in the best possible way. In order to improve the product, Fibrain company organizes dedicated meetings with experienced technicians which result in constant implementation of the new improvements in our components. Thanks to full control of the product, any potential changes are implemented almost automatically. We are not conditioned by any foreign capital though we can prepare products which fulfill the requirements in our region. We have managed to create a system corresponding to the needs of wide range of customers- the system of the XXI century.

Wide and plentiful portfolio's solutions allows us to adjust to individual configuration of IT network and gives us a competitive advantage on the market. Our own high requirements, resulted in not only fulfilling but exceeding the ISO/IEC 11801:2002, EIA/TIA-568-B.2.1, EN 50173:2002 norms.





Solutions

Our solutions are divided into specific systems, which ensure compliance with the various categories established by the committees for standardization.

Express 5e

Express - Complete D-class system, includes all the components of 5e category which are required when structured cabling system is installed. The system is available in 2 options: UTP and FTP. In both categories the system is based on cables with increased frequency up to 200 MHz. Additionally, system includes multi-pair cables of 5e category, which entirely comply with requirements of the: ISO/IEC 11801 norm.

Quick 6

Quick - Complete E-class system includes all components of 6 category which are required when structured cabling system is installed. Thanks to the wide portfolio of installation cables (U/UTP, F/UTP, U/FTP, F/FTP), as well as increased frequency up to 500 MHz, we are able to fulfill the requirements of a large and demanding group of customers.

Rapid 6a

Rapid - Complete EA-class system, contains complete range of 6A category components. Solutions fully provide 10Gbps transmission in complete 100m of transmission channel. A system is based on shielded version of transmission channel.

ULTRA 7 ULTRA 7A

Ultra - Solutions are adjusted to future applications, ensuring assumptions of 7 and 7A categories. It is also based on high quality of telecommunication cables as F/FTP, S/FTP.

Voice

Voice - A system is prepared to be used in digital and analog telephone signal transmission. It perfectly complements telecommunication solution.

FIBRAIN

Fiber - large group of components used for transferring information between specific distribution points. Thanks to wide and varied portfolio of components, we can create 100% structured cabling system which uses fiber optic cable as a medium of transmission.

EBOX group of electrical components is an additional supplement which is a solution for electrical - logical points. For the end-points we use 45x45 and 50x50 mm standard. Varied portfolio of adapters allows the user to join endpoint cooper, optical fiber and multimedia solutions in one point together with dedicated power supply.



Marketing materials

Apart from individual meetings, our company has prepared diverse marketing materials, such as catalogues, publications, technical brochures as well as guides for installers and designers, which are dedicated for a particular group of professionals. Data sheets include all the necessary technical information required for a project implementation.

Sales network

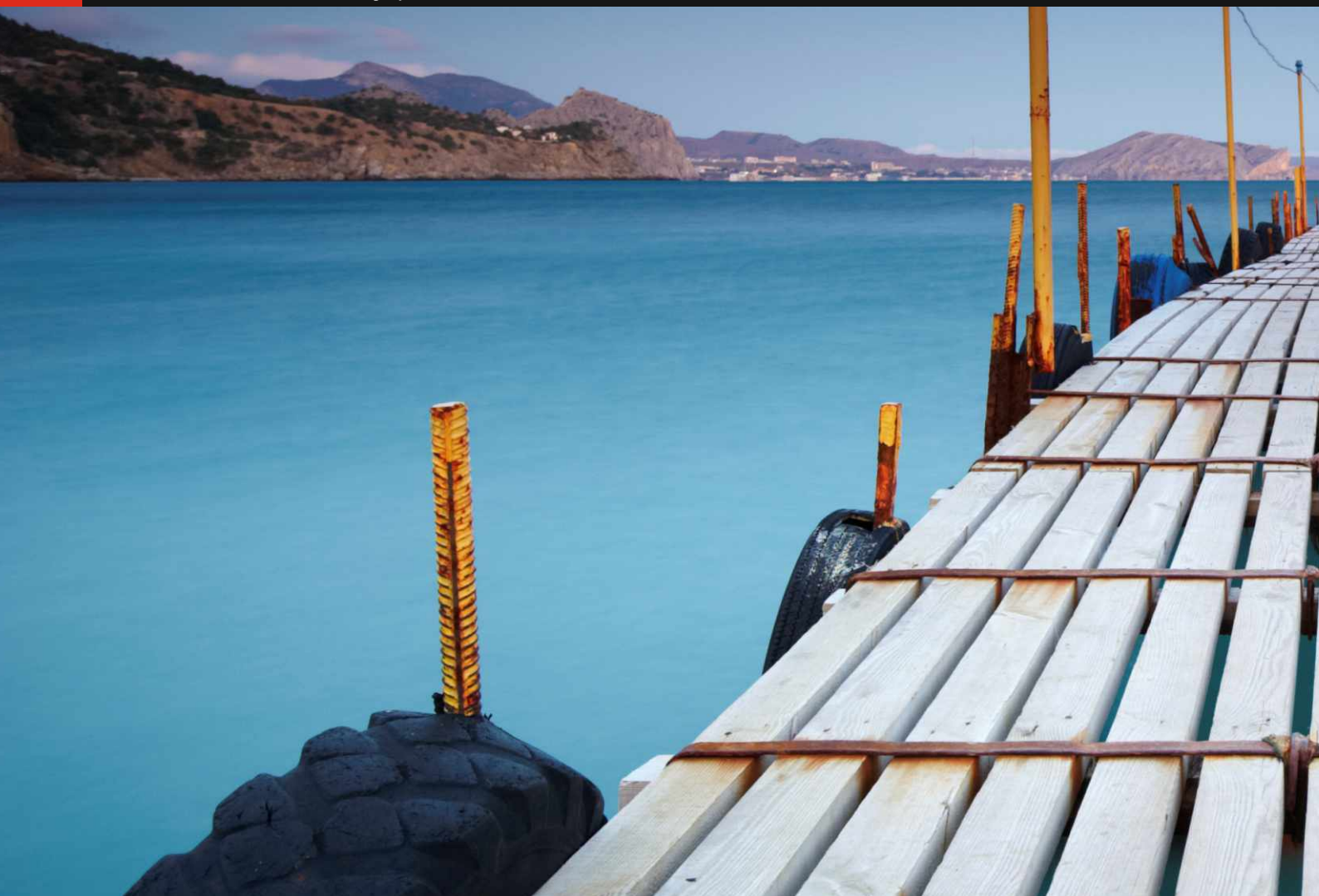
A convenient location of branches with their own warehouses, as well as broad distributors network, ensure permanent access to all products. Another advantage is the possibility of direct transport to the location or a building site. Thanks to adequate safety stock levels, an order fulfillment is immediate.

Compatibility

All of our products have been examined by an external, independent laboratory as a component and also as a transmission channel and permanent link. For an additional protection, all of them are measured on a daily basis in FIBRAIN internal laboratory and also reviewed by the installers after the implementation process. Moreover, each component is examined with the use of the de-embedded method.

Fibrain academy

A dynamically growing training center, with convenient location of the company's branches, allows Designers and Installers to increase and widen their knowledge. During meetings, which are dedicated for professionals, both theoretical and practical knowledge is provided. We lay great emphasis on the individual meetings in our partners' headquarters since we are not limited to any area. Meetings are always tailored to the partner's needs and preferences. Our trainers are open for a discussion and precious knowledge exchange.



Certified installer

Authorized Program of the Certified Installers of FIBRAIN DATA is aimed for companies which are focused on project design, installation with implementation of structured cabling system. Training Program of Certified Installers conducted by our Product Managers provides essential knowledge, which is necessary to understand and install structured cabling system.

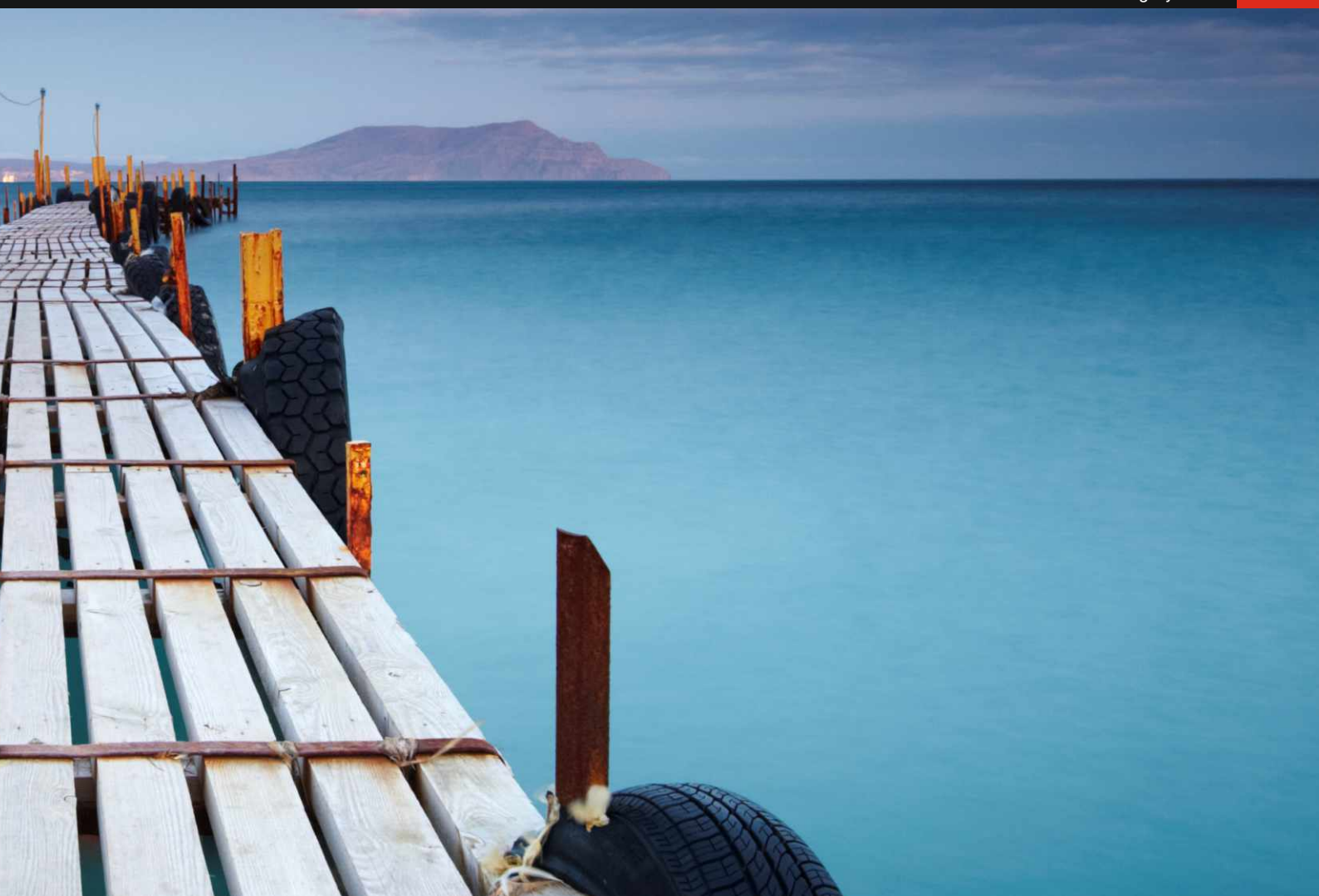
During the training, knowledge in the field of norms, mounting standards and available components of the system is exchanged. Furthermore, trainings include practical part, which demonstrates installation of individual components. Training's aim is to teach how to properly implement structured cabling system, which is covered by 25-year warranty for an operation and application of the system.

Certified designer

Meetings in design offices allow us to obtain knowledge about the latest investors' requirements and needs. Designers can gather knowledge about the newest norms, editions and conditions which nowadays are placed ahead of modern structured cabling systems.

Certified integrator

The Authorizing Program for the Certified Integrators of Fibrain Data is dedicated for the companies which have experience in installing our products. Proficiency in installation is confirmed by years of experience as well as implementation of Certified Fibrain Data Systems which is covered by 25-year warranty.



Product warranty

All of the components of Certified Fibrain Data System are free from material and manufacturing defects.

Warranty Program for Certified Installers

Thanks to high requirements and standards set for-imposed on our solutions we are able to ensure that our system will work perfectly for at least 25 years. Each telecommunication system which is made of Fibrain components and done by Certified Installer can be under our warranty program.

Fibrain Data certification procedure

After implementing the installation, Certified Installer is required to submit all the necessary documents, especially as-built documentation, measurement of complete network with the use of authorized device possessing valid calibration term. As a next step, Fibrain examines the network and verifies submitted documents. In case of any inaccuracies or mistakes, Certified Installer is required to correct them or complete documentation. Afterwards, Fibrain issues warranty documents, which must be transferred by Certified Installer to the project investor.

System warranty

Transmission Channel of the Certified FibrainDATA structured cabling system fulfills the parameters according to the category for which it is dedicated and designed. The warranty does not cover products which are used, stored or installed improperly.

Application warranty

FibrainDATA Certified structured cabling system is free from defects, which does not enable signal transmission based on specific protocols and network applications. This concerns applications and protocols which are established by the committees for standardization IEEE,ANSI, TIA/EIA, ATM Forum and confirmed for transmission requirements based on TIA/EIA 568-B.2 and/or TIA/EIA 568- A,TIA/EIA568-A-5, ISO-IEC 11801 2nd edition, ISO/IEC 11801, EN 50173 norms and standards.

INSTALLATION CABLES

The ambiguity of names has led to necessary standardization of terminology. Their regulation was introduced in ISO/IEC 11801 2nd edition norm published in 2002 and then followed by the EN 50173 standard in Europe.

Proper terminology of cable shielding methods eliminated any misunderstandings between user and the manufacturer/distributor.

New cabling names

Standards which have been created, have replaced all the previous names and simple words allow users to learn them quickly..

A problem might occur in distinguishing S-FTP from S-FTP when they only differ in a separator but at the same time they define two separate methods of shielding.

FORMATION PATTERN - x/yTP

x - general shield name :

U - no shield
F - the shield as an aluminum foil
S - metallic braid
SF - metallic braid and aluminum foil

y - is the name of the screen around each conductor pair:

U - no shield
F - aluminum foil around each conductor

OLD NAME	NEW NAME
UTP	U/UTP
FTP	F/UTP
S-FTP	SF/UTP
STP, S-STP, PIMF	U/FTP aluminum foil around each pair , lack of overall
	F/FTP aluminum foil around each pair, the overall foil
	S/FTP foil around each pair, the overall metal braid

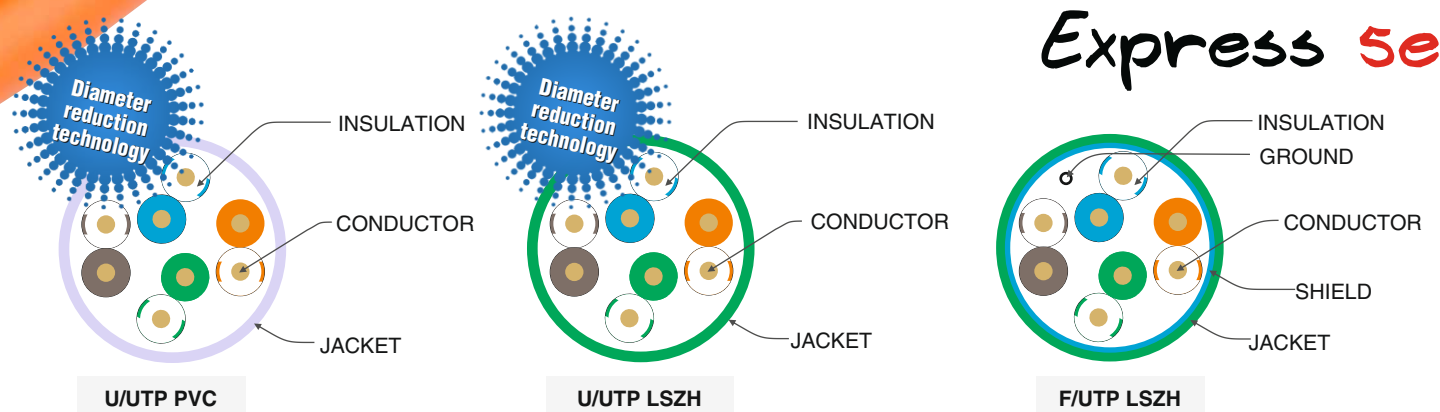
Norms and fire safety regulations

The standard specifies the cabling protection against fire and burning (emission of substances during combustion).

LS0H or LSZH- flame resistant material (flameless), halogen-free coating.

LSFR0H, LSFRZH –non- flammable material, halogen-free coating

An ordinary PVC coating burns easily and during combustion emits substances that endanger human health. During the fire, halogen in the plastic emits hydrogen chloride, which upon contact with water, turns into hydrochloric acid. During the combustion, toxic fumes and harmful mixture of toxic gases/acids are also emitted.



Structured cabling FIBRAIN DATA Express is fully compatible with 5e category (class D), according to the ISO/IEC 11801:2011 norm. All of the components are compatible with ROHS 2002/95/WE Directive.

Construction:

- conductor -24 AWG (0,51 mm)
- insulation – polyolefin
- pair number 4 twisted
- jacket – grey PVC
- jacket – green LSZH

Applications:

- 10BASE-T (IEEE 802.3)
- 4/16 Mbps Token Ring (IEEE 802.5)
- 100BASE-VG-AnyLAN
- 100 Mbps TP-PMD (ANSI X3T9.5)
- 100BASE-T (IEEE 802.3)
- 55/155 Mbps ATM
- 1000BASE-T (Gigabit Ethernet)

Norms:

- IEC 60332-1
- UNE 50265-2-1:2010
- ANSI/TIA/EIA 568-C.2 (Cat. 5e)
- ISO/IEC 11801:2011
- IEC 61156-5
- EN 50173, EN 50288

XE100.101 U/UTP cat. 5e 200 MHz box, 305 m grey PVC jacket

XE100.102 cable drum 500 m

XE100.103 cable drum 1000 m

XE100.105 U/UTP cat. 5e 200 MHz box, 305 m green LSZH jacket

XE100.106 cable drum 500 m

XE100.107 cable drum 1000 m

XE100.111 F/UTP cat. 5e 200 MHz box, 305 m grey PVC jacket

XE100.112 cable drum 500 m

XE100.113 cable drum 1000 m

XE100.115 F/UTP F/UTP cat. 5e 200 MHz box, 305 m green PVC jacket

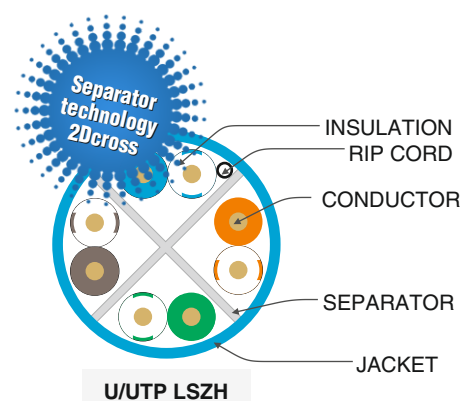
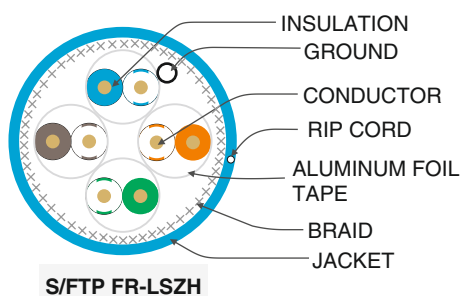
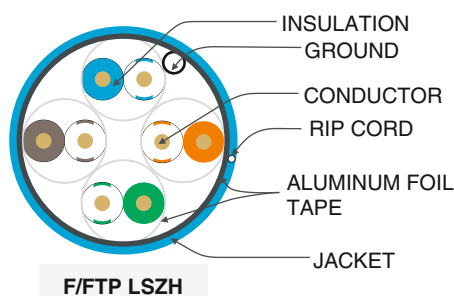
XE100.116 cable drum 500 m

XE100.117 cable drum 1000 m

Dynamic parameters

Frequency Mhz:	Attenuation Max dB/100 m:	NEXT dB/100 m(min):	PS-NEXT dB/100 m(min):	ACR-F dB/100 m(min):	PS-ACR-F dB/100 m(min):
0,772	1,8	72,0	69,0	68,2	65,2
1	2,1	70,3	67,3	66,0	53,0
4	4,0	61,3	58,3	54,0	51,0
10	6,2	55,3	52,3	46,0	43,0
16	7,9	52,2	49,2	41,9	38,9
25	10,0	49,3	46,3	38,0	35,0
31,25	11,2	47,9	44,9	36,1	33,1
62,5	16,2	43,4	40,4	30,1	27,1
100	20,9	40,3	37,3	26,0	23,0
155	26,7	37,4	34,4	22,2	19,2
200	30,8	35,8	32,8	20,0	17,0

Quick 6



Structured cabling FIBRAIN DATA Quick is fully compatible with 6 (class E) standard, according to ISO/IEC 11801:2011 norm. All of the components are compatible with ROHS 2002/95/WE Directive.

Construction:

- conductor -23 AWG (0,574 mm)
- insulation – polyolefin
- number of pairs- 4 twisted
- jacket – grey PVC
- jacket – blue LSZH
- jacket – blue FR-LSZH

Shield:

- U/UTP – no shield
- F/UTP – aluminum foil/polyester around all pairs
- U/FTP – aluminum foil/polyester around each pair
- F/FTP – aluminum foil/polyester around each pair and the overall foil/polyester
- S/FTP – aluminum foil/polyester around each pair and the overall braid

Applications:

- half and full duplex transmission
- analog and digital transmission of video signals
- 16 Mbps Token Ring
- 100 Mbps TP-PMOD
- 100 BASE-T (IEEE 802.3)
- 1000 BASE-T (Gigabit Ethernet)
- 155/622 Mbps ATM
- 1,2 Gbps ATM

Norms:

- IEC 60332-1, PN-EN 50265-2-1:2010
- LSZH: PN-EN 50268-1
- PN-EN 50267-2-1, PN-EN 50266-2-4
- ANSI/TIA/EIA 568-C.2 (Cat.6)
- ISO/IEC 11801:2011
- EN 50173:2011

Dynamic parameters

Frequency Mhz:	Attenuation Max dB/100 m:	NEXT	PS-NEXT	ACR-F	PS-ACR-F	Return Loss
		dB/100 m(min):				
1	1,8	76,7	73,7	73,0	73,0	---
10	6,5	69,2	66,2	61,0	58,0	34,4
16	8,2	67,6	64,6	56,9	53,9	33,8
31,25	9,9	65,4	62,4	51,1	48,1	33,3
62,5	14,1	61,9	58,9	45,1	42,1	33,0
100	18,0	58,9	55,9	41,0	38,0	32,1
155	22,7	56,0	53,0	37,2	34,2	31,5
250	29,2	52,9	49,9	33,0	30,0	30,4
350	35,1	50,7	47,7	30,1	27,1	---
500	43,0	48,4	45,4	27,0	24,0	---

XQ100.101 U/UTP cat. 6 500 MHz box, 305 m grey PVC jacket

XQ100.102 cable drum 500 m

XQ100.103 cable drum 1000 m

XQ100.105 U/UTP cat. 6 500 MHz box, 305 m blue LSZH jacket

XQ100.106 cable drum 500 m

XQ100.107 cable drum 1000 m

XQ100.116 F/UTP cat. 6 350 MHz cable drum 500 m blue LSZH jacket

XQ100.117 cable drum 1000 m

XQ100F116 F/UTP cat. 6 350 MHz cable drum 500 m blue FR-LSZH jacket

XQ100F117 cable drum 1000 m

XQ100.126 U/FTP cat. 6 450 MHz cable drum 500 m blue LSZH jacket

XQ100.127 cable drum 1000 m

XQ100.136 F/FTP cat. 6 450 MHz cable drum 500 m blue LSZH jacket

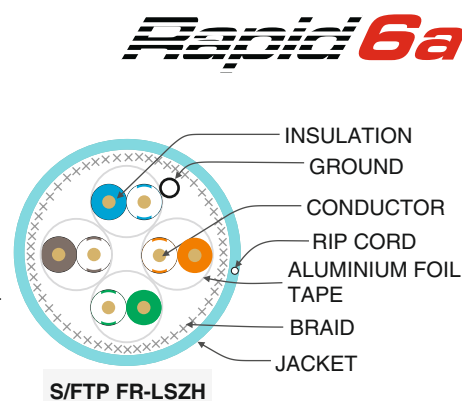
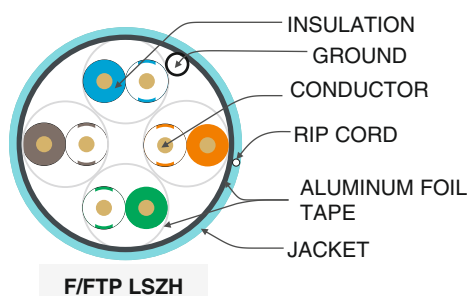
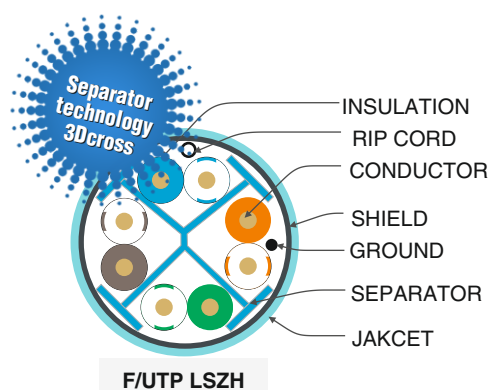
XQ100.137 cable drum 1000 m

XQ100.146 S/FTP cat. 6 450 MHz cable drum 500 m blue LSZH jacket

XQ100.147 cable drum 1000 m

XQ100F146 S/FTP cat. 6 450 MHz cable drum 500 m blue FR-LSZH jacket

XQ100F147 cable drum 1000 m



Structured cabling FIBRAIN DATA Rapid is fully compatible with 6_A (class E_A) standard, according to ANSI/TIA/EIA 568-C.2, ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed2.1, IEC 60603-7-5 norms. All of the components are compatible with ROHS 2002/95/WE directive.

Construction:

- conductor -23 AWG (0,574 mm)
- insulation – polyolefin
- pair number- 4 twisted
- jacket – turquoise LSZH
- jacket - turquoise FR-LSZH

Shield:

- F/UTP – aluminum foil/polyester around all pairs
- U/FTP – aluminum foil/polyester around each pair
- F/FTP – aluminum foil/polyester around each pair and the overall foil/polyester
- S/FTP – aluminum foil/polyester around each pair and the overall braid

Applications:

- half and full duplex transmission
- analog and digital transmission of video signals
- 100 Mbps TP-PMOD
- 100 BASE-T (IEEE 802.3)
- 1000 BASE-T (Gigabit Ethernet)
- 155/622 Mbps ATM
- 1,2 Gbps ATM
- 10G BASE-T (10 Gigabit Ethernet)

Norms:

- IEC 60332-1, UNE-EN 50265-2-1:2010
- LSZH: UNE-EN 50268, UNE-EN 50268-1, IEC 60332-1, UNE 50266-2-4
- ANSI/TIA/EIA 568-C.2 (Cat.6A)
- ISO/IEC 11801:2011
- EN 50173:2011

XR1B0.116 F/UTP cat. 6_A 500 MHz cable drum 500 m turquoise LSZH jacket

XR1B0.117 cable drum 1000 m

XR100.126 U/FTP cat. 6_A 500 MHz cable drum 500 m turquoise LSZH jacket

XR100.127 cable drum 1000 m

XR100F126 U/FTP cat. 6_A 500 MHz cable drum 500 m turquoise FR-LSZH jacket

XR100F127 cable drum 1000 m

XR100.136 F/FTP cat. 6_A 500 MHz cable drum 500 m turquoise LSZH jacket

XR100.137 cable drum 1000 m

XR100F136 F/FTP cat. 6_A 500 MHz cable drum 500 m turquoise FR-LSZH jacket

XR100F137 cable drum 1000 m

XR100.146 S/FTP cat. 6_A 500 MHz cable drum 500 m turquoise LSZH jacket

XR100.147 cable drum 1000 m

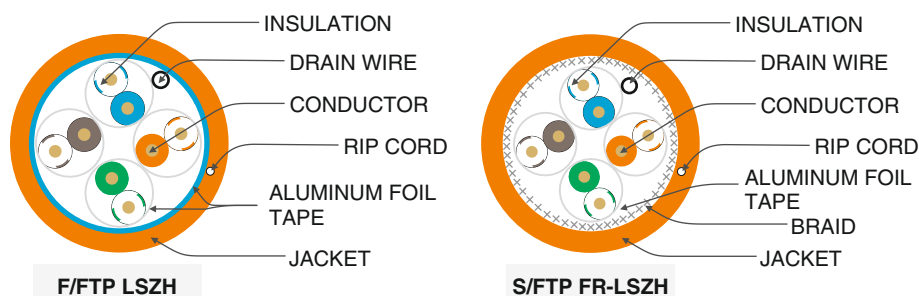
XR100F146 S/FTP cat. 6_A 500 MHz cable drum 500 m turquoise FR-LSZH jacket

XR100F147 cable drum 1000 m

Dynamic parameters

Frequency Mhz:	Attenuation Max		NEXT		PS-NEXT		ACR-F		PS-ACR-F		Return Loss	
			Typical Value Cat. 6 _A		dB/100 m							
1	2,0	2,0	98,0	75,3	95,0	72,3	88,0	68,0	85,0	65,0	22,0	20,0
4	3,7	3,8	98,0	66,3	95,0	63,3	76,0	56,0	73,0	53,0	25,0	23,0
10	5,6	5,9	98,0	60,3	95,0	57,3	68,0	48,0	65,0	45,0	28,0	25,0
20	7,9	8,4	93,0	55,8	90,0	52,8	62,0	42,0	59,0	39,0	28,0	25,0
30	9,7	10,3	88,0	53,1	85,0	45,4	58,4	38,4	55,4	35,4	27,0	23,8
100	18,0	19,1	83,0	45,3	80,0	42,3	48,0	28,0	45,0	25,0	24,0	21,1
150	22,4	23,6	81,0	42,7	78,0	39,7	44,5	24,5	41,5	21,5	22,0	18,8
200	26,0	27,6	81,0	40,8	78,0	37,8	52,0	22,0	49,0	19,0	21,0	18,0
250	29,4	31,0	78,0	39,3	35,1	36,3	40,0	20,0	37,0	17,0	20,0	17,3
300	32,5	34,3	78,0	38,1	32,8	35,1	38,5	18,5	35,5	15,5	19,0	17,3
400	38,0	40,0	73,0	36,3	32,8	33,3	36,0	16,0	33,0	13,0	19,0	17,3
500	43,0	45,2	73,0	34,8	32,8	31,8	34,0	14,0	31,0	11,0	19,0	17,3
600	47,6	N/A	73,0	N/A	32,8	N/A	33,0	N/A	30,0	N/A	19,0	N/A

ULTRA 7



Structured cabling FIBRAIN DATA Ultra is fully compatible with 7 (class F) standard, according to the ISO/IEC 11801:2011 and EN 50173-1:2011 norms. All of the components are compatible with ROHS 2002/95/WE directive.

Construction:

- conductor -23 AWG (0,574 mm)
- insulation – polyolefin
- pair number- 4 twisted
- jacket – orange LSZH
- jacket - orange FR-LSZH

Shield:

- F/FTP - aluminum foil/ polyester around each pair and the overall foil
- S/FTP - aluminum foil/polyester around each pair and the overall braid
- Ground: cooper, galvanized drainage wire 0,4 mm

Applications:

- half and full duplex transmission
- Analog and digital transmission of video signals
- 100 BASE-T (IEEE 802.3)
- 1000 BASE-T (Gigabit Ethernet)
- 155/622 Mbps ATM
- 1,2 Gbps ATM
- 10G BASE-T(10 Gigabit Ethernet)
- Broadband CATV

Norms:

- IEC 60332-1, UNE-EN 50265-2-1:2010
- LSZH: PN-EN 50268-1
- PN-EN 50267-2-1, PN-EN 50266-2-4
- UNE-EN 50267-2-1, UNE-EN 50266-2-4
- ISO/IEC 11801:2011,
- EN 50173:2011.

ULTRA 7 600MHz

X6U100.136 F/FTP cat. 7 600 MHz cable drum 500 m orange LSZH jacket

X6U100.137 cable drum 1000 m

X6U100F136 F/FTP Kat. 7 600 MHz cable drum 500 m orange FR-LSZH jacket

X6U100.137 cable drum 1000 m

X6U100.146 S/FTP Kat. 7 600 MHz cable drum 500 m orange LSZH jacket

X6U100.147 cable drum 1000 m

X6U100F146 S/FTP Kat. 7 600 MHz cable drum 500 m orange FR-LSZH jacket

X6U100F147 cable drum 1000 m

ULTRA 7 900MHz

X9U100.136 F/FTP Kat. 7 900 MHz cable drum 500 m orange LSZH jacket

X9U100.137 cable drum 1000 m

X9U100F136 F/FTP Kat. 7 900 MHz cable drum 500 m orange FR-LSZH jacket

X9U100F137 cable drum 1000 m

X9U100.146 S/FTP Kat. 7 900 MHz cable drum 500 m orange LSZH jacket

X9U100.147 cable drum 1000 m

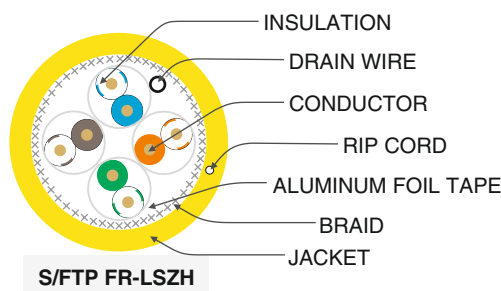
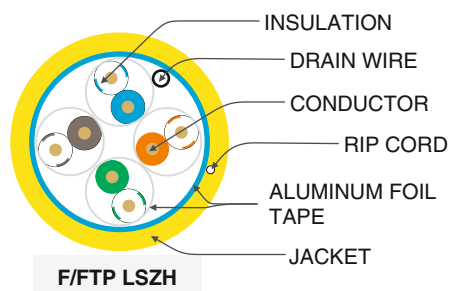
X9U100F146 S/FTP Kat. 7 900 MHz cable drum 500 m orange FR-LSZH jacket

X9U100F147 cable drum 1000 m

Dynamic parameters

Frequency Mhz:	Attenuation Max		NEXT		PS-NEXT		ACR-F		PS-ACR-F		Return Loss	
			Typical Value Cat. 7		dB/100 m(min):							
1	2,0	2,0	108,0	78,0	105,0	75,0	98,0	78,0	95,0	75,0	22,0	20,0
4	3,6	3,7	101,0	78,0	98,0	75,0	93,0	78,0	90,0	75,0	25,0	23,0
10	5,6	5,8	98,0	78,0	95,0	75,0	89,0	74,0	86,0	71,0	28,0	25,0
20	7,9	8,3	93,0	78,0	90,0	75,0	83,0	68,0	80,0	65,0	28,0	25,0
30	9,7	10,2	88,0	78,0	85,0	75,0	79,0	64,5	76,0	61,5	27,0	23,8
100	18,0	19,0	83,0	72,4	80,0	69,4	69,0	54,0	66,0	51,0	24,0	21,1
150	22,4	23,6	81,0	69,7	78,0	66,7	66,0	50,5	63,0	47,5	22,0	18,8
200	26,0	27,5	81,0	68,0	78,0	65,0	63,0	48,0	60,0	45,0	21,0	18,0
250	29,4	31,0	78,0	66,4	75,0	63,4	61,0	46,0	58,0	43,0	20,0	17,3
300	32,5	34,2	78,0	65,2	75,0	62,2	55,0	44,5	52,0	41,5	19,0	17,3
400	38,0	40,0	73,0	63,4	70,0	60,4	52,0	41,9	49,0	38,9	19,0	17,3
500	43,0	45,2	73,0	61,9	70,0	58,9	50,0	40,0	47,0	37,0	19,0	17,3
600	47,6	50,1	73,0	60,7	70,0	57,7	48,0	38,4	45,0	35,4	19,0	17,3

ULTRA 7A FUTURE 8



Structured cabling FIBRAIN DATA 7A is fully compatible with 7_A (class F_A) standard, according to the ISO/IEC 11801:2011 and EN 50173-1:2011 norm.

Structured cabling FIBRAIN DATA FUTURE 8 is fully compatible with 7A (class FA) standard, according to the IEC 61156-7 norm.

Construction:

- conductor -23 AWG (0,574 mm)
- conductor- Cat. 8- 22 AWG (0,644 mm)
- insulation – polyolefin
- pair number- 4 twisted
- jacket – yellow LSZH
- jacket - yellow FR-LSZH

Shield:

- F/FTP - aluminum foil/ polyester around each pair and the overall foil
- S/FTP - aluminum foil/polyester around each pair and the overall braid
- Ground: cooper, galvanized drainage wire 0,4 mm

Applications:

- Analog and digital transmission of video signal
- 100 BASE-T (IEEE 802.3)
- 1000 BASE-T (Gigabit Ethernet)
- 155/622 Mbps ATM
- 1,2 Gbps ATM
- 10G BASE-T (10 Gigabit Ethernet)
- Broadband CATV
- 40 i 100 Gigabit Ethernet

Norms:

- IEC 60332-1, UNE-EN 50265-2-1:2010
- LSZH: PN-EN 50268-1
- PN-EN 50267-2-1, PN-EN 50266-2-4
- UNE-EN 50267-2-1, UNE-EN 50266-2-4
- ISO/IEC 11801:2011
- EN 50173:2011

Dynamic parameters

Frequency MHz:	Attenuation Max	NEXT	PS-NEXT	COUPLING ATT.	Return Loss
dB/100 m(min):					
1	1,9	90,0	87,0	NS	27,0
4	3,4	90,0	87,0	NS	27,0
16	6,8	90,0	87,0	NS	27,0
30	9,3	90,0	87,0	90,0	27,0
62,5	13,7	89,1	86,1	90,0	27,0
100	17,5	86,0	83,0	90,0	27,0
200	25,3	81,5	78,5	84,0	23,0
300	31,5	78,8	75,8	80,5	23,0
600	46,3	74,3	71,3	74,4	20,0
900	58,4	71,7	68,7	70,9	18,2
1000	62,0	71,0	68,0	70,0	17,8
1200	69,0	69,8	66,8	68,4	17,0
1500	71,0	75,0	72,0	67,3	19,0

ULTRA 7A

XUA100.146 S/FTP cat. 7_A 1200 MHz cable drum 500m, yellow LSZH jacket

XUA100.147 cable drum 1000 m

XUA100F146 S/FTP cat. 7_A 1200 MHz cable drum 500 m yellow FR-LSZH jacket

XUA100F147 cable drum 1000 m

XUA10A0.146 S/FTP cat. 7_A 1550 MHz cable drum 500 m yellow LSZH jacket

XUA1A0.147 cable drum 1000 m

XUA1A0F146 S/FTP cat. 7_A 1550 MHz cable drum 500m yellow FR-LSZH jacket

XUA1A0F147 cable drum 1000 m

FUTURE 8

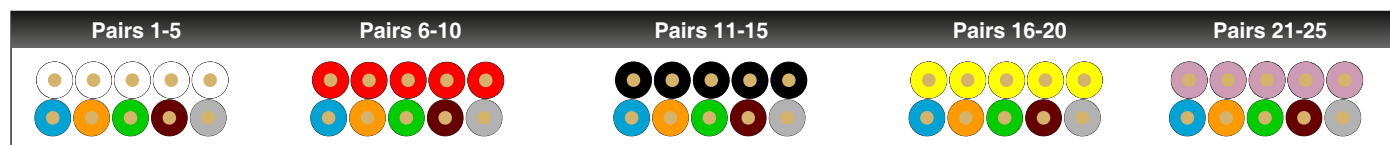
XF100.146 S/FTP cat. 8 1800 MHz cable drum 500m yellow LSZH jacket

XF100.147 cable drum 1000 m

XF100F146 S/FTP cat. 8 1800 MHz cable drum 500m yellow FR-LSZH jacket

XF100F147 cable drum 1000 m

Voice



The supplements of FibrainDATA cabling are multi-pair cables, which transmit digital and analog telephone signals, available in 2 solutions:

- compatible with cat.3 according to the ISO/IEC 11801, EN 50173 and ANSI/TIA/EIA 568-C.2 norms
- compatible with cat. 5e (class D), according to the ISO/IEC 11801:2011 norm.

All of the components are compatible with ROHS 2002/95/WE directive.

Construction:

- conductor -24 AWG (0,574 mm)
- insulation – polyolefin
- pair number- cat. 3 - 25/50/100 pairs
- pair number- cat. 5e - 25 pairs
- jacket – grey PVC
- jacket - green LSZH

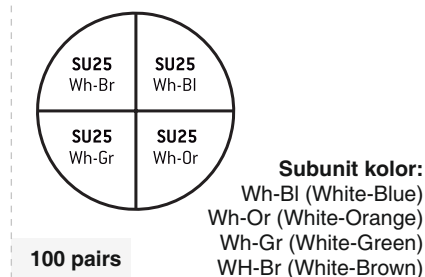
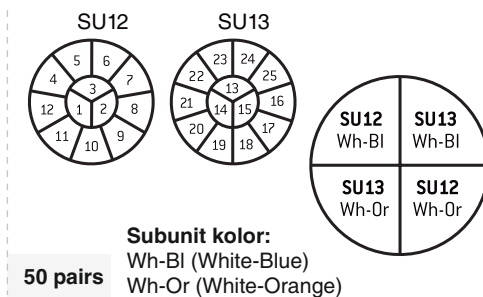
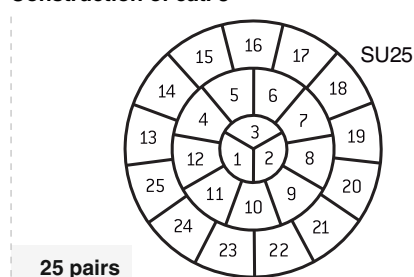
Applications:

- PBX
- So Point-to-Point
- Token Ring 4 Mbit/s
- ATM LAN 51,84 Mbit/s
- ATM LAN 155,52 Mbit/s
- Analog and digital transmission of video signals

Norms:

- IEC 60332-1
- UNE 50265-2-1:2010
- ANSI/TIA/EIA 568-C.2
- ISO/IEC 11801:2011
- IEC 61156-5
- EN 50173, EN 50288

Construction of cat. 3



Dynamic parameters

Frequency MHz:	Attenuation Max	NEXT	PS-NEXT	ACR-F	PS-ACR-F	Return Loss
dB/100 m(min):						
1	2,0	65,3	62,3	61,0	58,0	20,0
4	4,1	56,3	53,3	49,0	46,0	23,0
8	5,8	51,3	48,3	42,0	39,9	24,5
10	6,5	50,3	47,3	41,0	38,0	25,0
16	8,2	47,3	44,3	36,9	33,9	25,0
20	9,3	45,3	42,3	34,9	31,9	25,0
25	10,4	44,3	41,3	33,0	30,0	24,3
31,25	11,7	42,9	39,9	31,0	28,0	23,6
62,5	17,0	38,4	35,4	25,1	22,1	21,5
100	22,0	35,3	32,3	21,0	18,0	20,1



CENTRAL TEST LABORATORY

NATIONAL INSTITUTE OF TELECOMMUNICATIONS

NATIONAL RESEARCH INSTITUTE

04-894 Warsaw, Szachowa Str.1, Poland

LABORATORY MANAGER
tel. +48 22 5128 325
fax. +48 22 5128 146
e-mail: lab_bad@itl.waw.pl

CL 1
TV Systems and Equipment Testing Team
tel. +48 22 5128 430

CL 2
EMC Testing Team
tel. +48 22 5128 320

CL 3
Telecommunications Terminal Equipment Testing Team
tel. +48 22 5128 329

CL 4
Environmental, Mechanical, Metallic Cable and Accessories Testing Team
tel. +48 22 5128 118

BOK
Customer Service Office
tel. +48 22 5128 157
fax. +48 22 5128 435

CERTIFICATE OF NATIONAL INSTITUTE OF TELECOMMUNICATIONS

No 009/2011

Certificate issued for: **Przedsiębiorstwo Handlowe „ELMAT” Sp. z o.o.**
ul. Wspólna 4a, 35-205 Rzeszów – Poland

Name of equipments: **Cables category 7(600MHz):**

- FIBRAIN DATA Ultra 7 F/FTP, LSOH – X6U100.136, X6U100.137, X6U102.137,
- FIBRAIN DATA Ultra 7 F/FTP, LSOH – X9U100.136, X9U100.137, X9U102.137,
- FIBRAIN DATA Ultra 7A F/FTP, LSOH – XUA100.136, XUA100.137.

Type of equipment: **structural cabling system category 7.**

Device manufacturer: **FIBRAIN Spółka z o.o. - Poland**

Conclusion: Following tests carried out at accredited laboratory – certificate No AB 121, (test report No 09 50 041 1) we confirm, that the cables listed above, meet applicable requirements of the following standards for category 7:

- PN-EN-50173:2009/A1:2010
- EN 50173-1:2007/A1
- ISO/IEC 61156-5(2009-02) Ed. 2.0
- ISO/IEC 11801:2002

Date of validity: 26.07.2016

Plenipotentiary of Director
for
Testing and Conformance Evaluation

Adam Boryński, M.Sc.

Warsaw, 26.07.2011

Complete Test Report is archived at National Institute of Telecommunications in Warsaw.



KEYSTONE MODULES

Keystones modules are a very important part in a structured cabling system when taking into account the potential dangers concerning the system such as dangers caused by users, restoration's group etc. Installers who start the whole installation process, were also the ones who initiated a change. Consequently, we have created a safe and modern version of keystones with an easy installation and the same termination method for all categories.



Applications:

- cable termination in a user's point,
- cable termination in a distribution point,
- Permanent Link Channel element,
- cable termination in each accessory type in the "keystone" standard.

Key features and benefits:

- the construction ensures the possibility of simultaneous termination of all the conductors (non- tool construction, termination tool),
- external dimensions enable packaging a lot of modules close to each other,
- modules equipped with the system of separating transmission pairs- which counteract inter-pair crosstalks,
- modules equipped with silvered cable at 45 ° angle that provides minimal return loss and protects from degradation and damages,
- the place of putting RJ 45 is protected from bending end-pins- innovative stabilizing system with gilded joints,
- full compatibility with dynamic parameters for dedicated line and transmission channel according to the ISO/IEC 11801:2011 EN, 50173:2011 norms,
- Cooperation with independent laboratories, using De-embedded and Re-embedded methods,
- easy, automatic installation, modules equipped with T568A/B scheme,
- front changing module allows the user to change a category without necessity of re-terminating the installation wire.

Accord:

- "keystone" standard- provides universality of installation,
- Structured cabling standards ISO/IEC 11801:2011, EN 50173:2011, TIA/EIA

- 567-C.2- approved by independent laboratories certificates,
- manufacturing verification with modern standards.

Technology

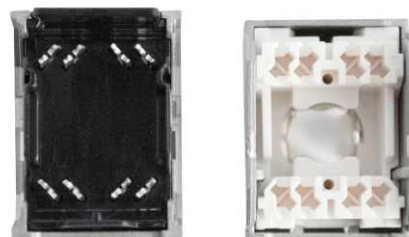
Picture 1: Pairs separation

System of separating the transmission pairs inside keystone. It ensures minimal inter pair crosstalks and disturbances in a termination point.



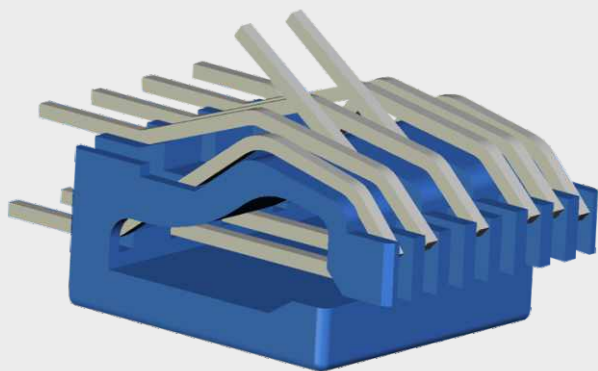
Picture 2: IDC clamps placing

IDC clamps are at 45° angle from a cable- minimizing retention loss. Moreover, each pair of installation cord has different termination angle with respect to other pairs.



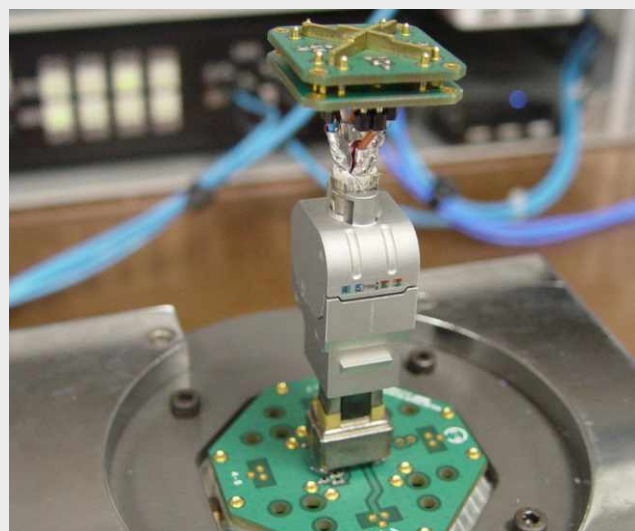
Picture 3: Internal comb-shaped stabilizing element

Thanks to the use of stabilizing element the module's work is protected from degradation.



Picture 4: Testing

In the manufacturing process modules are tested according to TIA/EIA 568-C.2 regulation- (Re-Embedded method) in 1-500 MHz, which replaces previously used De-Embedded 1-250Mhz method.



Picture 5: Packaging

Each module has a producer indication and a serial number. Additionally, thanks to comfortable package, there is no possibility to commit an error during an installation process.

Picture 6: Colorful covers

The system of colorful anti-dust covers enables assigning each subsystem to an individual indicator without interfering in a patch module.


Picture 7: Installation time

Thanks to a new installation technology and termination tool, the installation time is shorter than only one minute.

Installation time

<1 MIN

Accessories

XB-DC-W-01 5 pcs white anti-dust covers

XB-DC-Y-01 25 pcs yellow anti-dust covers

XB-DC-R-01 25 pcs red anti-dust covers

XB-DC-BK-01 25 pcs black anti-dust covers

Ordering information

The comparison below includes standard keystones from FibrainDATA structured cabling systems. In order to receive further information please contact with our sales department.



Express 5e

XE100.400 Keystone FibrainDATA Express 5e series UTP

XE100.450 Keystone FibrainDATA Express 5e series FTP/STP

Quick 6

XQ100.400 Keystone FibrainDATA Quick 6 series UTP

XQ100.450 Keystone FibrainDATA Quick 6 series 6 FTP/STP

Rapid 6a

XR100.450 Keystone FibrainDATA Rapid 6_A series FTP/STP



PATCHPANEL

In order to create a complete transmission line, the installation cables need to be terminated in a distribution point. Thanks to utilization of standardized structured cabling system, the investor is certain that applied components will be compatible with each other and create a unified solution. Our solutions fulfill any requirements due to verification methods such as "Two Connector Permanent Link" and other verification methods which test each single transmission channel.

Applications:

- cables termination in a distribution point,
- stable termination of telecommunication cables,
- element of Permanent Link Channel system.

Key features and benefits:

- Patch panels equipped with silvered cable at 45 °angle IDC connectors- that provide minimal return loss and protect from degradation or damages,
- RJ45 connectors are equipped with gilded joints,
- Complete compatibility with dynamic parameter for dedicated line and communication channel, according to the ISO/IEC 11801:2011 EN 50173:2011 norm,
- Cooperation with independent laboratories, using De-embedded and Re-embedded methods,
- Panels are equipped with braiding schemes: T568A and T568B

Accord:

- 19" standard – provides universal installation,
- structured cabling comply with ISO/IEC 11801:2011, EN 50173:2011, TIA/EIA 568-C.2 standards confirmed by independent laboratory certificates,
- productive verification with modern standards.



0,5U panels were designed in 19" standard, L-shaped with shelves which facilitate implementation of changes, development and reconfiguration in an easy way. Simple access to IDC provides and ensures easy maintenance and change of connections. Furthermore, each patch panel and port has their own numbering. Each set is equipped with screw and cable ties

Series **Express** is fully complied with requirements of cat.5e, according to the :
ANSI/TIA/EIA 568-C.2 (cat.5e), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Express 5e

XE100.205 patchpanel 0,5U FibrainDATA Express 5e series UTP 24 Ports

XE100.255 patchpanel 0,5U FibrainDATA Express 5e series FTP/STP 24 Ports

Series **Quick** is fully complied with requirements of cat.6, according to the :
ANSI/TIA/EIA 568-C.2 (cat.6), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Quick 6

XQ100.205 patchpanel 0,5U FibrainDATA Quick 6 series UTP 24 Ports

XQ100.255 patchpanel 0,5U FibrainDATA Quick 6 series FTP/STP 24 Ports

Series **Rapid** is fully complied with requirements of cat. 6_A, according to the :
ANSI/TIA/EIA 568-C.2 (cat.6A), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Rapid 6a

XR100.255 patchpanel 0,5U FibrainDATA Rapid 6_A series FTP/STP 24 Ports

UTP

Features:

- 0,5 U, 19"
- depth: 95 mm
- 8 pins IDC connectors
- Made of powder-coated sheet, black
- Easy cable assembling (cable shelf)
- Clear port and panels numbering

Mechanical parameters:

- **Frame:** steel plate 1,5 mm
- **Jack:** unshielded RJ45
- **Housing:** thermoplastic material UL 940-0, black
- **Clamps material:** bronze phosphoric
- **Contacts:** diameter 0,48 mm, covered with 50 µm of gold and 100 µm of nickel
- **Jack durability:** >750 connection cycles, according to EN 60603-7
- **IDC connector:** slotted angled connectors IDC LSA
- **Conductor diameter:** 0,4-0,65 mm (AWG 26-22)
- **IDC durability:** >200 connection cycles
- **Coupler material:** bronze phosphoric
- **Coupler covering:** 1,27 µm. silver and 2,5µm nickel layer
- **Cable form scheme:** T568A and T568B

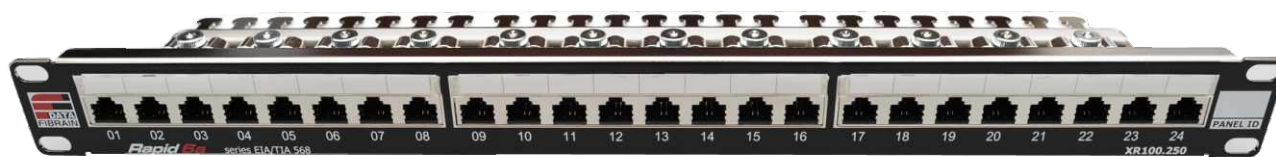
FTP/STP

Features:

- 0,5 U, 19"
- depth: 95 mm
- 8 pins IDC connectors
- Shielded cover connected with grounded point
- Easy cable assembling (cable shelf)
- Clear port and panels numbering

Mechanical parameters:

- **Frame:** steel plate 1,5 mm
- **Shield:** shielded cover made of galvanized steel 1,0 mm
- **Jack:** shielded RJ45 cat.3
- **Housing:** thermoplastic material UL 940-0, black
- **Clamp material:** bronze phosphoric
- **Contacts:** diameter 0,48 mm, covered with 50 µm of gold and 100 µm of nickel
- **Jack durability:** >750 connection cycles, according to EN 60603-7
- **IDC connector:** slotted angled connectors IDC LSA
- **Conductor diameter:** 0,4-0,65 mm (AWG 26-22)
- **IDC durability:** >200 connection cycles
- **Coupler material:** bronze phosphoric
- **Coupler covering:** 1,27 µm. silver and 2,5µm nickel layer
- **Cable form scheme:** T568A and T568B



1U panels, L-shaped with shelves which facilitate implementation of changes, development and reconfiguration in an easy way. Simple access to the patch panel field IDC-LSA provides easy maintenance and potential change of connections. Patch panel field is equipped with place for descriptive labels. Furthermore, each patch panel and port has their own numbering, 19" standard. Each set is equipped with descriptive labels, screw and cable ties.

Series **Express** is fully complied with requirements of cat.5e, according to the : ANSI/TIA/EIA 568-C.2 (cat.5e), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Express 5e

XE100.200 patchpanel 1U FibrainDATA Express 5e series UTP 24 Ports

XE100.250 patchpanel 1U FibrainDATA Express 5e series FTP/STP 24 Ports

Series **Quick** is fully complied with requirements of cat.6, according to the : ANSI/TIA/EIA 568-C.2 (cat.6), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Quick 6

XQ100.200 patchpanel 1U FibrainDATA Quick 6 series UTP 24 ports

XQ100.250 patchpanel 1U FibrainDATA Quick 6 series FTP/STP 24 ports

Series **Rapid** is fully complied with requirements of cat. 6_A, according to the : ANSI/TIA/EIA 568-C.2 (cat.6A), ISO/IEC 11801:2011, EN 50173-1:2011, IEC 61156-5 ed 2.1, IEC 60603-7-5.

Rapid 6a

XR100.250 patchpanel 1U FibrainDATA Rapid 6_A series FTP/STP 24 ports

UTP

Features:

- 1U, 19"
- depth: 110 mm
- 8 pins IDC connectors
- Made of printed sheet, powder coating, black color
- Easy cable assembling, cable shelf
- Description field with replaceable, pre-printed descriptive labels
- Clear port and panels numbering

Mechanical parameters:

- **Frame:** steel plate 1,5 mm
- **Jack:** unshielded RJ45
- **Housing:** thermoplastic material UL 940-0, black color
- **Clamp material:** bronze phosphoric
- **Contacts:** diameter 0,48 mm, covered with 50µm. of gold and 100µm. of nickel
- **Contacts durability:** >750 connection cycles, according to norm: EN 60603-7
- **IDC connector:** slotted angled connectors IDC LSA
- **Conductor diameter:** 0,4-0,65 mm (AWG 26-22)
- **IDC durability:** >200 connection cycles
- **Coupler material:** bronze phosphoric
- **Coupler covering:** 1,27µm. of silver and 2,5µm. of nickel
- **Cable form scheme:** T568A oraz T568B

FTP/STP

Features:

- 1U, 19"
- depth: 110 mm
- 8 pins IDC connectors
- Made of printed sheet, powder coating, black color
- Shielded cover connected with grounded point
- Easy cable assembling, cable shelf
- Description field with replaceable, pre-printed descriptive labels
- Clear port and panels numbering

Mechanical parameters:

- **Frame:** steel plate 1,5 mm
- **Jack:** shielded RJ45
- **Shield:** shielded cover made of galvanized steel 1,0 mm
- **Housing:** thermoplastic material UL 940-0, black color
- **Clamp material:** bronze phosphoric
- **Contacts:** diameter 0,48 mm, covered with 50µm. of gold and 100µm. of nickel
- **Contacts durability:** >750 connection cycles, according to norm: EN 60603-7
- **IDC connector:** slotted angled connectors IDC LSA
- **Conductor diameter:** 0,4-0,65 mm (AWG 26-22)
- **IDC durability:** >200 connection cycles
- **Coupler material:** bronze phosphoric
- **Coupler covering:** 1,27µm. of silver and 2,5µm. of nickel
- **Cable form scheme:** T568A oraz T568B



Not- equipped panels, L-shaped with shelves, which enable easy modifications, redevelopment and reconfiguration. Easy access to “keystones” patch panel modules provide easy maintenance and potential change of connections.

Patch panel field is equipped with places for descriptive labels. Moreover, each port and panel has got own numbering. 19” standard.

Characteristics:

- multipurpose, modular panel 19” for keystone module building,
- integrated cable plate enables cables mounting with cable shelf,
- available installation max. 48 modules keystone, optional shield,
- metal construction enables galvanic connection with modules’ shields,
- grounded conductor,
- possibilities to use exchangeable anti-dust covers to form subsystems in a structured cabling.

XB100.216 patchpanel 19" 1U 16 x keystone modules, grey

XB100.224 patchpanel 19" 1U 24 x keystone modules, grey

XB100.224.1 color black

XB100.232 patchpanel 19" 1U 32 x keystone modules, grey

XB100.232.1 color black

XB100.248 patchpanel 19" 2U 48 x keystone modules, grey

VOICE Patch panels are compatible with cat. 3 requirements and ensure digital transmission and analog signals. Patch panels are equipped with 4-vertical (2 pairs) IDC- LSA connections which provide easy and fast installation. Panels are also designed in L-shape and have a shelf, which allows a user an easy implementation of the changes, extension and reconfiguration. Easy access to IDC connectors, ensures easy maintenance and change of connections. Moreover, each port and panel is numbered. 19” standard.

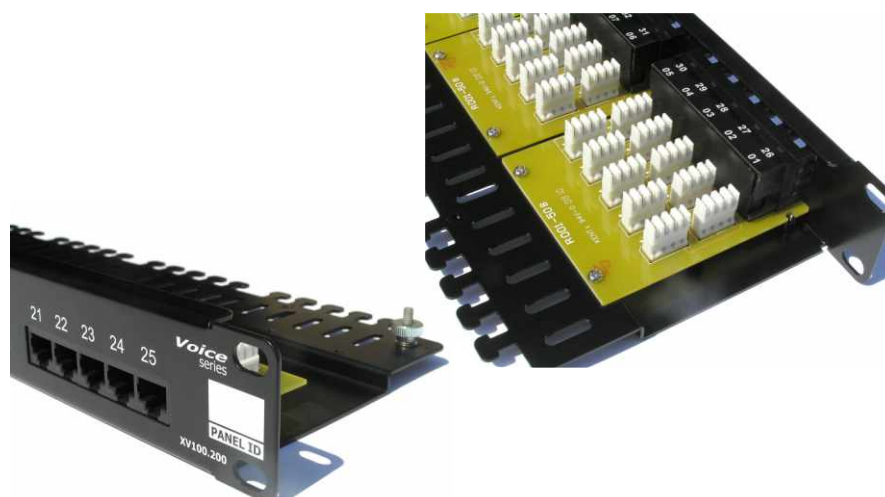
Mechanical parameters:

- **Frame:** steel plate 1,5 mm
- **Jack:** unshielded RJ45 cat.3
- **Housing:** thermoplastic material UL 940-0, black colour
- **Contacts material:** bronze phosphoric
- **Contacts:** diameter 0,35 mm, covered film of 50µm silver and 100µm nickel
- **Contacts durability:** >750cycles, according to: EN 60603-7
- **IDC connectors:** slotted angled connectors IDC LSA
- **Conductor diameter:** 0,4-0,65 mm (AWG 26-22)
- **IDC durability:** >200 connection cycles
- **Coupler material:** bronze phosphoric
- **Coupler covering:** brass Sn 60%, Pb 40%
- **Cable form scheme:** T568A and T568B

Voice

XV100.200 patchpanel Fibrain DATA Voice series 25 ports

XV100.210 patchpanel Fibrain DATA Voice series 50 ports



Technology

Picture 1: IDC connectors

Silvered and angular IDC-LSA connectors ensure minimal rebound value, which counteract sparking and protect from connector's degradation in a termination point.

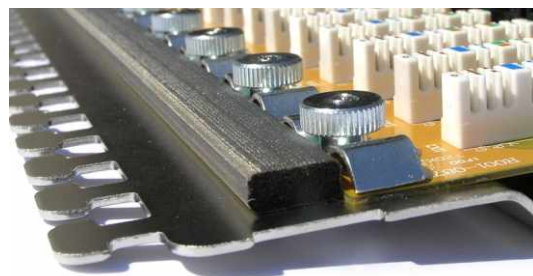


Picture 2: Shielding – mounting

Innovative system of 3 contact points

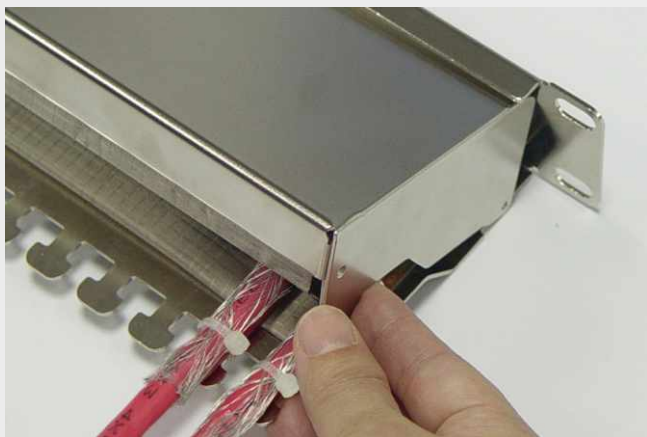
FibrainDATA Contact resistance < 10 mOhm

Standards requires Contact resistance < 20 mOhm



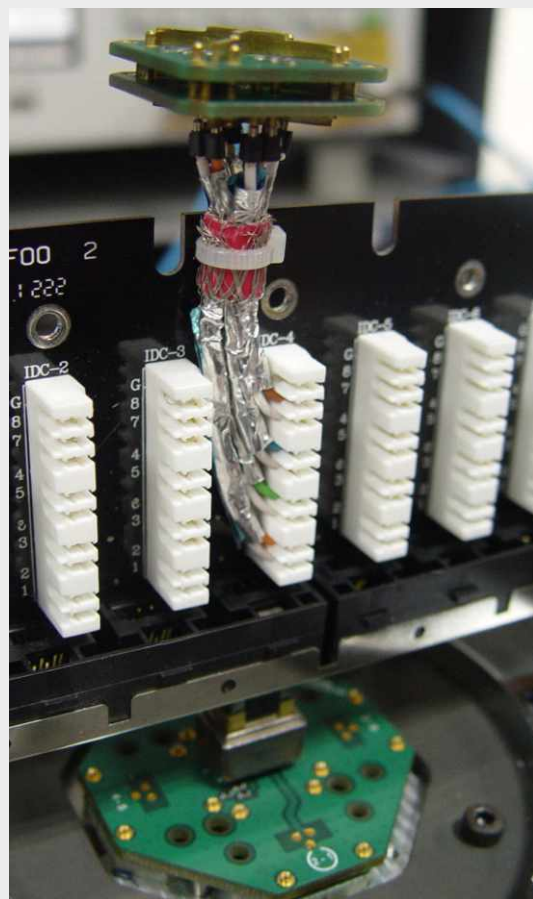
Picture 3: Faraday cage

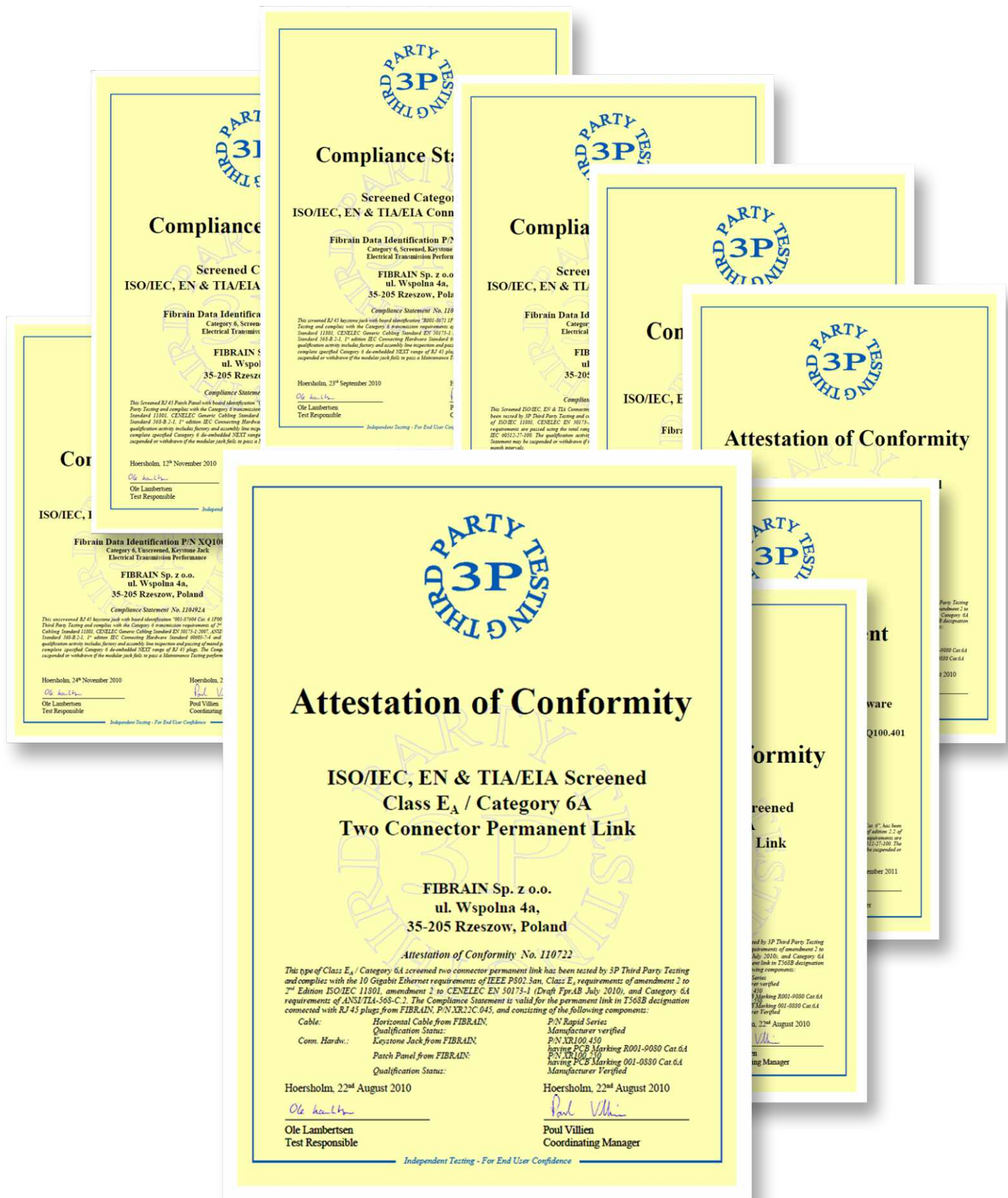
A whole panel is covered with shielded cover, which is connected with corpus by two shielded sponges surrounding installation cables.



Picture 4: Testing

In the manufacturing process, panels are tested in accordance with TIA/EIA 568-C.2 regulation- Re-Embedded within the range 1- 500 MHz which substitutes previously used De-Embedded 1-250 MHz method.

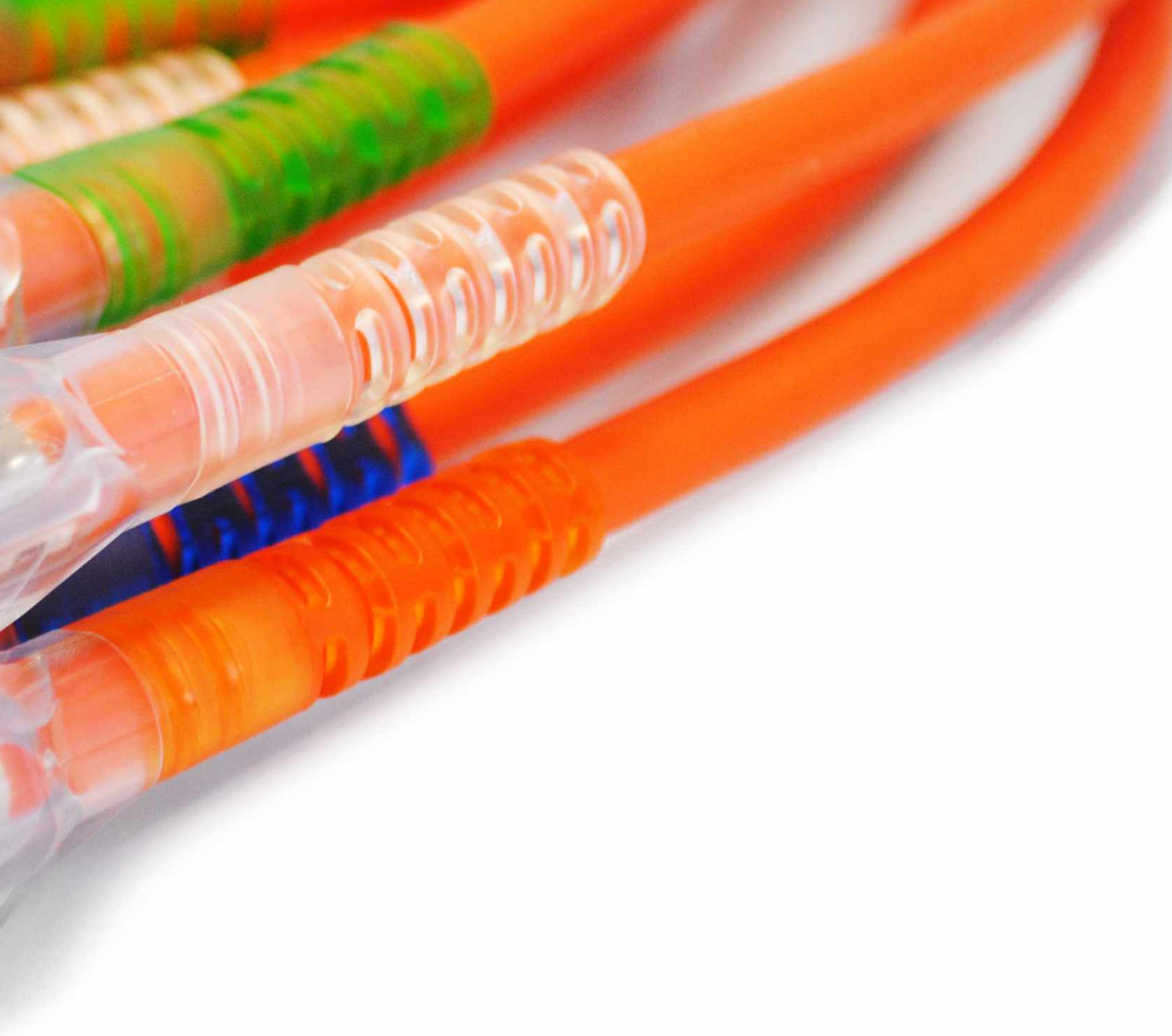




PATCH CORDS



We do not realize the importance of patch cords as the necessary and final element of the structured cabling system. Proper choice of patch cords and their durability ensure constant connection of the transmission channel - that is stability of the movement in the network.



New and modern patch cords of FibrainDATA system are designed in accordance with precious technical support of Polish engineers. Consequently, patch cords comply with requirements set by norms as well as users. They have been already used in many modern technologies and solutions. Patch cords were made with inter-pair crosstalks system by using "X" pair-distributor technology and comb-shaped conductor separator.

Applications:

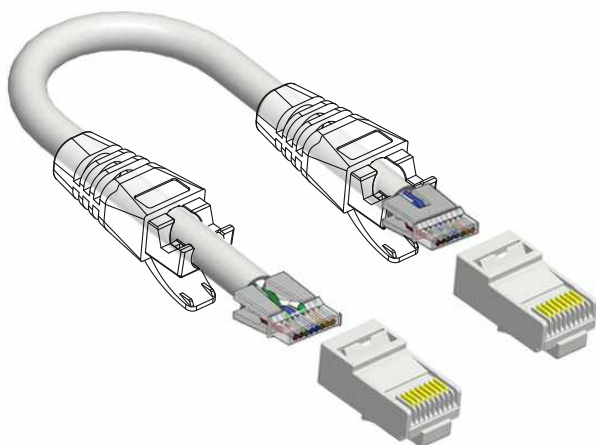
- connection in the user point,
- connection with consolidation point,
- equipped with Data Center and consolidation points,
- creating complete transmission channel.

Advantages and features:

- possibility to use dedicated solution in order to manage the infrastructure on the physical layer,
- products made by Fibrain are compatible with ANSI/ICEA S-102-732-2009 regulation,
- ensures pair-twisting to the clamp blade, which complies with dynamic parameters for the constant link and transmission channel, compatible with ISO/IEC 11801:2011 and EN 50173:2011 requirements,
- made of solid elements, which ensure compatibility with IEC 60603-7x, TIA/EIA 568-C.2 regulations,
- plugs maintaining natural radius of cable bending,
- visible producer labels of structural cabling system in order to use unified solution,
- plugs equipped with "x" pair distributor technology,

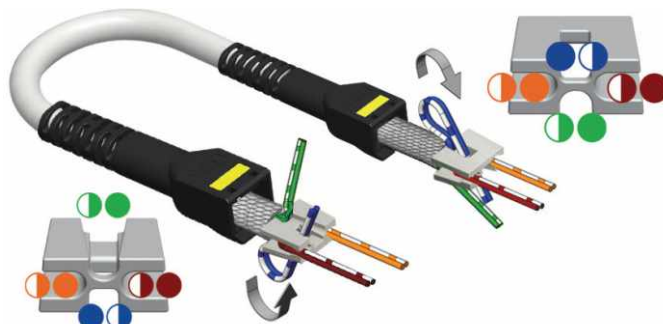
- plugs equipped with comb-shaped conductors separator.

Technology



Picture 1: UTP plug- constituent elements

The system of plugs termination enables separation of transmission pairs from the end of external sheath- the improvement of inter-pair crosstalk value.



Picture 2: FTP/STP plug constituent elements

The system of plug termination enables the separation of transmission pairs from the end external sheath termination in "x" distributor technology - the improvement of crosstalk value.

For the execution we use:

Patch cords UTP cat.6

- Patch cord cable – stranded, cat. 6 U/UTP LSZH

Patch cords FTP/STP cat. 6

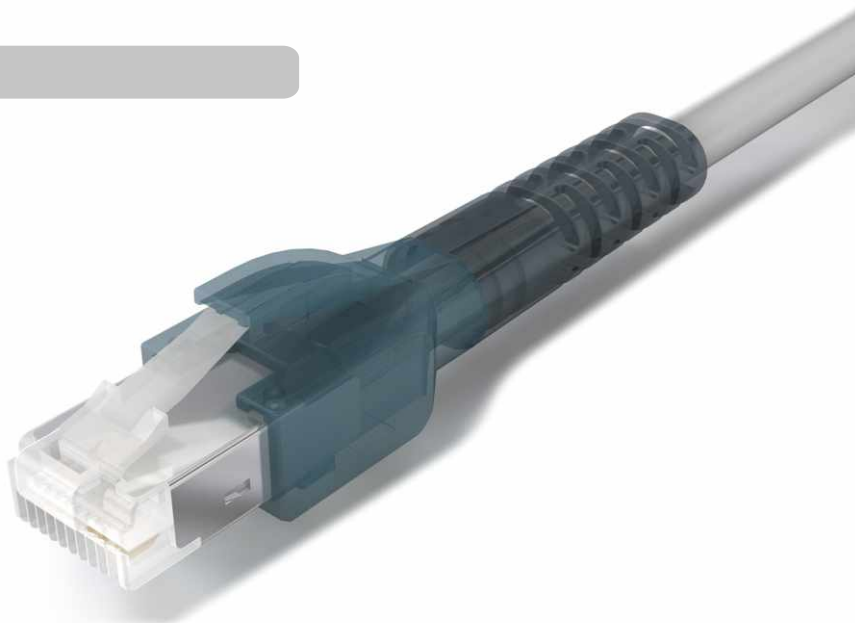
- Patch cord cable - stranded, cat. 6_A U/FTP FR-LSZH
- Patch cord cable – stranded, cat. 6_A S/FTP FR-LSZH

Patch cords FTP/STP cat. 6_A

- Patch cord cable – stranded, cat. 7 900MHz S/FTP FR-LSZH

Pigtails UTP cat. 6

- Installation cable - solid, cat. 6 500 MHz U/UTP grey PVC
- Installation cable - solid, cat.6 500 MHz U/UTP blue LSZH



Picture 3: Plug 6_A- stabilizing element.

Thanks to stabilizing elements, bend radiuses are protected from excessive bendings, which devastate connection.

Capabilities

A table shows a scheme of creating non-standard copper patch cords and pigtails (one-sided termination available) with the use of certified FIBRAIN components. All of the products undergo measurement processes with the use of measuring instruments. In order to obtain any further information please contact with our sales department.

FibrainDATA Patch cord cat.6 UTP - crimped assembly

XQP	Length	Shield type	Type	Connections	Cable color	Plug color	Boot color
	005 - 0,5 m 010 - 1 m 100 - 10 m ... 990 - 99 m	0 - U/UTP	1 - crimped	0 - cross 1 - straight T568A 2 - straight T568B	OR - orange Y - yellow GR - green GY - grey BL - blue BK - black R - red W - white	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise

FibrainDATA Patch cord cat.6 FTP/STP- patch cord cable 500MHz cat. 6_A crimped assembly

XQP	Length	Shield type	Type	Connections	Cable color	Plug color	Boot color	Icon color
	005 - 0,5 m 010 - 1 m 100 - 10 m ... 990 - 99 m	2 - U/FTP 4 - S/FTP	1 - crimped	0 - cross 1 - straight T568A 2 - straight T568B	OR - orange Y - yellow GR - green GY - grey BL - blue BK - black R - red W - white	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise

FibrainDATA Patch cord cat. 6_A FTP/STP – patch cord 900 MHz cat. 7, crimped assembly

XRP	Length	Shield type	Type	Connections	Cable color	Plug color	Boot color	Icon color	SR color
	005 - 0,5 m 010 - 1 m 100 - 10 m ... 990 - 99 m	2 - U/FTP 4 - S/FTP	1 - crimped	0 - cross 1 - straight T568A 2 - straight T568B	OR - orange Y - yellow GR - green GY - grey BL - blue BK - black R - red W - white	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise

FibrainDATA Pigtail cat.6 UTP - solid cable – PVC or LSZH 500MHz cat. 6, crimped assembly

XQPP	Length	Shield type	Type	Connections	Cable color	Plug color	Boot color
	005 - 0,5 m 010 - 1 m 100 - 10 m ... 990 - 99 m	0 - U/UTP	1 - zarabiane	1 - T568A 2 - T568B	OR - orange Y - yellow GR - green GY - grey BL - blue BK - black R - red W - white	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise	0 - white 1 - white TR 2 - black TR 3 - red 4 - blue 5 - orange 6 - green 7 - turquoise

Ordering information

A table shows a scheme of standard copper patch cords and pigtails with certified FIBRAIN components. All of the products undergo detailed measurement processes with the use of measuring instruments. In order to obtain any further information please contact with our sales department.

FibrainDATA Patch cord, Cat. 6 UTP cable, crimped, red connector, transparent white boot, T568B-T568B

Length	Cable color				
	Yellow	Green	Grey	Blue	Red
0,5 m	XQP005.012Y31	XQP005.012GR31	XQP005.012GY31	XQP005.012BL31	XQP005.012R31
1 m	XQP010.012Y31	XQP010.012GR31	XQP010.012GY31	XQP010.012BL31	XQP010.012R31
2 m	XQP020.012Y31	XQP020.012GR31	XQP020.012GY31	XQP020.012BL31	XQP020.012R31
3 m	XQP030.012Y31	XQP030.012GR31	XQP030.012GY31	XQP030.012BL31	XQP030.012R31
5 m	XQP050.012Y31	XQP050.012GR31	XQP050.012GY31	XQP050.012BL31	XQP050.012R31
10 m	XQP100.012Y31	XQP100.012GR31	XQP100.012GY31	XQP100.012BL31	XQP100.012R31

FibrainDATA Patch cord cat.6 FTP/STP - crimped, red connector, black boot, T568B-T568B

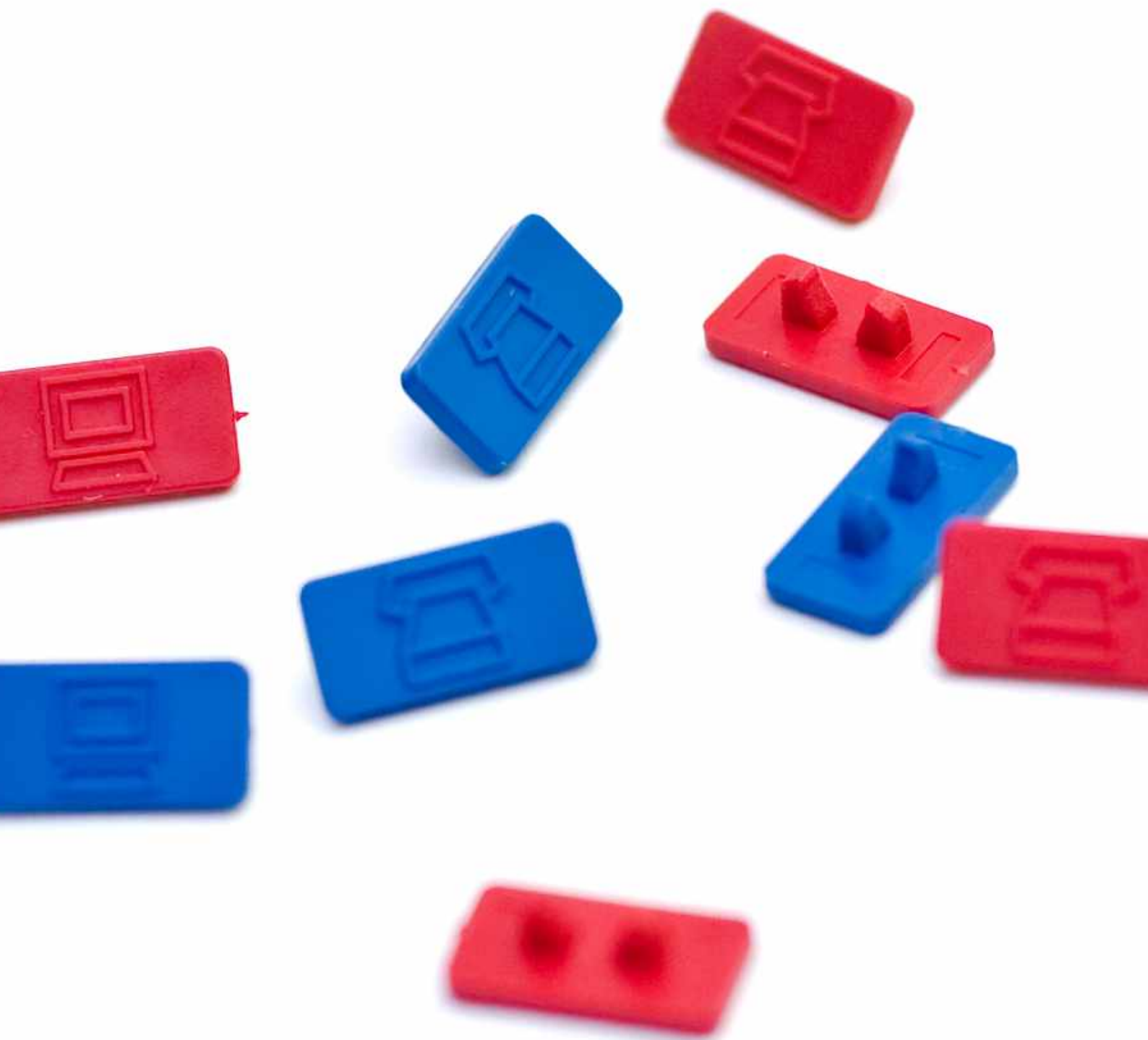
Length	Cable type	
	U/FTP - 500 MHz	S/FTP - 500 MHz
0,5 m	XQP005.212GY324	XQP005.412GY324
1 m	XQP010.212GY324	XQP010.412GY324
2 m	XQP020.212GY324	XQP020.412GY324
3 m	XQP030.212GY324	XQP030.412GY324
5 m	XQP050.212GY324	XQP050.412GY324
10 m	XQP100.212GY324	XQP100.412GY324

FibrainDATA Patch cord cat. 6_A FTP/STP - crimped, red connector, black boot, T568B-T568B

Length	Cable color			
	Yellow	Green	Grey	Blue
0,5 m	XRP005.412Y7262	XRP005.412GR7262	XRP005.412GY7262	XRP005.412BL7262
1 m	XRP010.412Y7262	XRP010.412GR7262	XRP010.412GY7262	XRP010.412BL7262
2 m	XRP020.412Y7262	XRP020.412GR7262	XRP020.412GY7262	XRP020.412BL7262
3 m	XRP030.412Y7262	XRP030.412GR7262	XRP030.412GY7262	XRP030.412BL7262
5 m	XRP050.412Y7262	XRP050.412GR7262	XRP050.412GY7262	XRP050.412BL7262
10 m	XRP100.412Y7262	XRP100.412GR7262	XRP100.412GY7262	XRP100.412BL7262

FibrainDATA Pigtail cat.6 UTP - crimped, red connector, white transparent boot, T568B

Length	Cable type	
	PVC - grey	LSZH - blue
0,5 m	XQPP005.012GY31	XQPP005.012BL31
1 m	XQPP010.012GY31	XQPP010.012BL31
2 m	XQPP020.012GY31	XQPP020.012BL31
3 m	XQPP030.012GY31	XQPP030.012BL31
5 m	XQPP050.012GY31	XQPP050.012BL31
10 m	XQPP100.012GY31	XQPP100.012BL31



INSTALLATION EQUIPMENT

In-wall mount boxes

Type	Height	Width	Depth	Index
2 mod	81	81	40	GIP-2
4 mod	81	148	40	GIP-4
6 mod	81	203	40	GIP-6

Surface mount boxes

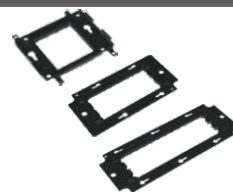
Type	Height	Width	Depth	Index
2 mod	65	68	40	OBU-2
4 mod	65	124	40	OBU-4
6 mod	65	184	40	OBU-6

Mounting supports

SUP-2 support 2 module 45x45 mm

SUP-4 4 modules 90x45 mm

SUP-6 6 modules 135x45 mm



Mounting frame

RAM-2 frame for 2 modules support 45x45mm

RAM-4 4 modules 90x 45 mm

RAM-6 6 modules 135x 45mm



Adapters for keystone modules – flat

XB-45KA00S-01 adapter 22,5 x 45 mm for 1x keystone module

XB-45KA00D-01 adapter 45 x45mm for 1x keystone module

XB-45KA00D-02 adapter 45 x45mm for 2x keystone module

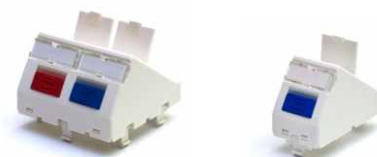


Adapters for keystone module – angular

XB-45KA45S-01 adapter 22,5 x45 mm for 1x keystone modules

XB-45KA45D-01 adapter 45 x 45 mm for 1x keystone module

XB-45KA45D-02 adapter 45 x 45 mm for 2x keystone modules



Blind adapter

XB-450000S-01 blind adapter -22,5x 45 mm

XB-450000D-02 blind adapter 45x 45 mm



Electrical Sockets in 45x 45 mm standard

Type	Singular	Double	Triple
Electrical red socket 2P+Z with blockade	J74114	J74195	J74185
Electrical white socket 2P+Z	J74111	J74193	J74181

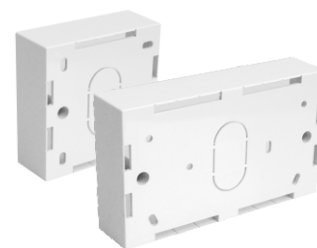
- enable to build integrated electrical and logical point,
- 240 V 50Hz/16A with grounding pin,
- assembly with the snap.

J50299 - Unblocking key



Surface mount boxes

Type	Height (mm)	Width (mm)	Depth (mm) - 27	Depth (mm) - 32	Depth (mm) - 37
2 modules	86	86	XB-50BBA-02	XB-50BBB-02	XB-50BBC-02
4 modules	86	146	XB-50BBA-04	XB-50BBB-04	XB-50BBC-04



Mounting frame with supports –angular

XB-50FPB-0002 frame with support – 2 modules 50x50 mm

XB-50FPB-0004 4 modules 100x50 mm



Mounting frame with support – flat

XB-50FPF-0002 frame with support – 2 modules 50x50 mm

XB-50FPF-0004 4 modules 100 x 50mm



Mounting frames with adapter keystone 50x 50mm

XB-50FPF-0102 frame with support – for 1x keystone module

XB-50FPF-0202 for 2x keystone module



Adapters for keystone modules

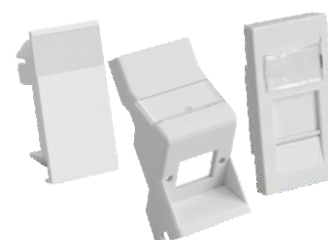
XB-50KA45I-01 25x50mm adapter for keystone module – angular

XB-50ST45I-01 25x50mm adapter for ST SX connector– angular

XB-50SC45I-01 25x50mm adapter for SC SX connector –angular

XB-50KA00L-01 25x50mm adapter for keystone module – flat

XB-50BL000-01 25x50mm blind adapter



Additional accessories

XB-00BXIL-01 Surface module – 1x keystone –BOX version

XB-00BXIL-02 for 2 keystone modules

- enables building logical sockets in any place,
- equipped with:
 - “keystone” mounting holes,
 - big descriptive field, identification icons,
 - anti-dust cover,
- adapted to be assembled under patch cord modules installation Fibrain DATA in UTP and FTP/STP versions.



XB-LVKA00S-02 adapter for Legrand Valena frame – 2 keystone modules

- enables building the logical socket in Legrand Valena standard,
- adapted to be assembled under patch cord modules installation FibrainDATA in UTP and FTP/STP versions.



XB-DNKA45-A1 Din-Rail adapter for 1 keystone module with grounding

- enables building logical sockets on a cantilever of DIN type,
- equipped with demountable grounding element,
- adapted to be assembled under patch cord modules installation FibrainDATA in UTP and FTP/STP version.





DISTRIBUTION POINT

Structured cabling FibrainDATA consists of many distribution points. Thanks to wide portfolio of distribution cabinets and their equipment, we are able to fulfill demanding requirements of installers, designers and end-users.

Applications:

- cumulative point in a distribution point,
- place of terminating patch panels,
- element of a structured cabling system.

Accord:

- 19" standard – provides universal installation,
- comply with ISO/IEC 11801:2011, EN 50173:2011, TIA/EIA 568-C.2 structured cabling standards.

A table below includes common 19" cabinets. There is a possibility to adjust the measurements and heights to the particular requirements. In order to obtain any further information please contact our sales department or become familiar with FibrainDATA catalogue.

Floor Standing Cabinet 19"

Type	Dimensions: (mm)			Weight (kg)	Load capacity (kg)	Index
	Width	Depth	Height			
22U	600	600	1095	53	300	SRS-22-6/6-S01-B
24U	600	600	1210	82	300	SRS-24-6/6-S01-B
	600	800		82		SRS-24-6/8-S01-B
27U	600	600	1315	60	300	SRS-27-6/6-S01-B
32U	600	600	1535	73	400	SRS-32-6/6-S01-B
42U	600	600	1980	88	400	SRS-42-6/6-S01-B
	600	800		105		SRS-42-6/8-S01-B
	800	1000		110		SRS-42-8/10-S01-B
	800	800		121		SRS-42-8/8-S01-B

Assembly set:

- 1x brush strip,
- 1x set of M6 rack bolts (16 pcs),
- 2x keys for side and back wall,
- 2x keys for front door,
- 4x set of M10 leveling feet,
- 1,5 m of special edge sheath protecting cabling (after breaking cable grommet).

Delivery

Cabinets are delivered as fully assembled items in a secure portable carton on a wooden pallet.

Floor Standing Server Cabinet 19"

Version	Type	Dimensions (mm)			Weight (kg)	Load capacity (kg)	Index
		Width	Depth	Height			
TOP II							
	42U	600	1000	1980	116,1	600	SSRS-42-6/10-T02-B
		800	1000		139.0		SSRS-42-8/10-T02-B

TOP II - metal and perforated front door, perforated and metal back, RAL 7005- black,

Delivery

Cabinets are delivered as fully assembled items in a secure portable carton on a wooden pallet.

Assembly set:

- 1x brush strip,
- 1x set of M6 rack bolts(16 pcs),
- 2x keys for side and back wall,
- 2x keys for front door,
- 4x set of M10 leveling feet,
- 1,5 m of special edge sheath protecting cabling (after breaking cable grommet).

Floor standing cabinet 19"

Features:

- back and sides full, demountable on claps, door - sheet/glass. Other options- charged,
- top and bottom- perforation for fans,
- Standard RAL 7005 color (black- structure),
- IP 20 protection,
- grounded and fully mounted,
- construction made of sheet, frame- welded,
- housing has 4 entering points for cables (250x70) (1 x top part, 2x back part, 1x bottom part) with set of brushes ,
- Front door with safety hardened glass stuck into framing and with single point lock on hinges, opening angle 180 °,
- Opening direction- left or right,
- 2 montage fields 19": 2 pairs on vertical montage profiles 19", galvanized, situated on horizontal profile rails at the distance 25 mm, minimal distance to front door-65 mm,
- cord section 6 mm and length 300 mm (to ground front door)
- can be arranged in sets with the use of ZLS product,
- Wide range of additional accessories (pedestals, sockets, shelves, ventilating, illuminating and power panels, elements for installing and placing the cables).

Floor Standing Server Cabinet 19"

Features:

- IP 20 protection,
- Indoor use,
- Fully assembled and grounded,
- Can be arranged in lines with ZLS-B set,
- Frame –welded from steel profiles (1,5 mm), standing on 4 leveling feet,
- Front door with window made of safety hardened glass (optional: full steel, full glass or perforated),
- Front door with safety hardened glass stuck into framing with 3- point lock on hinges, opening angle 180 °,
- Steel sheet back wall, demountable, assembled with 2 single points locks (possibility of perforated side shields), thickness:1mm,
- Steel sheet side walls (thickness: 1 mm), demountable, assembled with 2 single points locks (possibility of perforated side shields),
- 4 vertical assembly profiles 19"made of galvanized sheet (numbering each 1U),
- 2x 8U holes in roof and bottom to install ventilation panel,
- 2x 2U holes in a roof and the bottom to insert the cable, width: 450 mm
- wide range of additional accessories (pedestals, sockets, shelves, ventilating; illuminating and power panels, elements for installing and placing the cables).

A table below includes common 19" cabinets. There is a possibility to adjust the measurements and heights to the given requirements. In order to obtain any further information please contact with our sales department or become familiar with FibrainDATA catalogue.

Capabilities:

- SWJ cabinets, depth: 500mm and 600mm,
- SWD cabinets, depth: 600mm,
- SWJ/SWD cabinets of non-standard heights.

Assembly set:

- 1x brush strip,
- 16x M6 screws,
- 2x keys for front door,
- additionally- 12xM2, 9x9,5 sheet screws,

Delivery:

Cabinets are delivered as fully assembled and grounded- grounding ducts, length: 6mm2 300mm, which protect cabinets during transport.

Type	Dimensions (mm)			Weight (kg)	SWJ Index	SWD Index
	Width	Depth	Height			
6U	600	400	330	19,1	SWJ-06-400-TOP-B	
9U	600	400	464	22,1	SWJ-09-400-TOP-B	
12U	600	400	597	25,9	SWJ-12-400-TOP-B	
15U	600	400	730	29,7	SWJ-15-400-TOP-B	
18U	600	400	860	33,5	SWJ-18-400-TOP-B	
21U	600	400	997	37,4	SWJ-21-400-TOP-B	
6U	600	500	330	19,5		SWD-06-500-TOP-B
9U	600	500	465	22,5		SWD-09-500-TOP-B
12U	600	500	600	26,3		SWD-12-500-TOP-B
15U	600	500	730	30,1		SWD-15-500-TOP-B
18U	600	500	865	33,9		SWD-18-500-TOP-B
21U	600	500	997	37,8		SWD-21-500-TOP-B

Wall Mount Cabinet single section

- RAL 7005 color (black-structure),
- IP20 protection,
- indoor use,
- wide range of additional accessories (pedestals, sockets, shelves, ventilating, illuminating and power panels, elements for installing and placing the cables),
- 2x holes in a roof and the bottom to mount 1U ventilation module,
- zinc sheet pair of vertical mounting profiles 19", mounted on horizontal profile rails with 25 mm hole spacing,
- maximum spacing mounting profiles:
 - cabinet depth: 400mm- 335mm,
 - cabinet depth: 500mm- 435mm,
 - cabinet depth: 600mm- 535mm,
- made of 1,25 mm thick steel sheet,
- steel sheet back wall (thickness: 1,5mm), demountable, mounted on the hinges, opening angle 180°,
- front door with hardened glass (thickness: 3,15 mm) with single point lock, mounted on the hinges, opening angle 180° (optionally full steel door),
- Opening direction- left or right- thanks to any possibility of mounting the cabinet on the wall (top- bottom),
- 2x holes in the top and bottom part for placing the cables(250x70mm).

Wall mount cabinet two – section

- RAL 7005 color (black-structure),
- protection Ip20,
- indoor use,
- wide range of additional product accessories (shelves, ventilating, illuminating and power panels, elements for installing and placing the cables),
- 2x holes in a roof and the bottom to mount 1U ventilation module,
- 19"zinc sheet pair of vertical mounting profiles, mounted on horizontal profile rails with 25 mm hole spacing,
- minimal distance from the front door- 31,5mm,
- maximum spacing mounting profiles:
 - cabinet depth: 500mm- 435mm,
 - cabinet depth: 600mm- 535mm,
- construction made of steel sheet, thickness: 1,25mm,
- demountable side casings with single point lock which enables easy access to the accessories inside the cabinet
- front door with hardened glass (thickness: 3,15 mm) with single point lock, mounted on the hinges, opening angle 180° (optionally full steel door),
- opening direction - left or right - thanks to any possibility of mounting the cabinet on the wall (top- bottom),
- 2x holes in the top and bottom part for placing the cables(250x70mm).

A table below includes common 19" cabinets. There is a possibility to adjust the measurements and heights to the given requirements. In order to obtain any further information please contact with our sales department or become familiar with FibrainDATA catalogue.

Pedestal for floor standing cabinet 19"

Width	Depth	Height	Weight	Load capacity	Index - RAL 7005	
600	600	100	4,7	400	CKS-6/06-B	<ul style="list-style-type: none"> suitable for mounting with SRS 19" cabinets, perforated front masking frame, possibility to place it on a M10 leveling feet or wheels, possibility to connect pedestals to double height.
600	800		5,9		CKS-6/08-B	
800	800		6,5		CKS-8/08-B	
800	1000		7,7		CKS-8/10-B	

Ventilation panels

Type	Width	Depth	Height	Weight	Capacity	Index	
2 - fans	482	176	45,5	3,5	324-390	WTD-2T-B	<ul style="list-style-type: none"> suitable for mounting in 19" cabinets, equipped with standard power protection, highlighted switch and thermostat with temperature control, made of steel sheet.
4 - fans	482	352	45,5	6,6	648-780	WTD-4T-B	
6 - fans	482	352	45,5	7,7	972-1170	WTD-6T-B	

Fixed shelf 1U/19"

Type	Depth (mm)	Load capacity (kg)	Index - RAL 7005	
1U	250	10	PSM-25-1U-B	<ul style="list-style-type: none"> made of steel sheet, mounting at the front.

Fixed shelf 1U/19"-mounted in 4 points

Type	Depth	Load capacity	Mounting range (mm)	Index - RAL 7005	
1U	350	80	150-500	PSM-35-1U-B	<ul style="list-style-type: none"> made of steel sheet, mounted at the front and back, back handles with the possibility of stepless shift in a given mounting range.
1U	450	80	250-600	PSM-45-1U-B	
1U	550	80	350-700	PSM-55-1U-B	
1U	650	80	450-800	PSM-65-1U-B	
1U	750	80	550-900	PSM-75-1U-B	

Fixed shelf 1U/19"-mounted in 4 points

Type	Depth range (mm)	Load capacity	Index - RAL 7005	
1U	500-900	150	PSZ-90-1U-B	<ul style="list-style-type: none"> made of steel sheet, mounted at the front and back, depth adjustment every 25mm.

Cable organizer 19"

Type	Number of handles	Weight (kg)	Material	Index - RAL 7005	
1U	4	0,45	Steel	ORG-VM-1U-B	<ul style="list-style-type: none"> made of steel sheet with metal or plastic handles, enables clear organization of the cables .
2U	5	0,45	Steel	ORG-VM-2U-B	
1U	5	0,32	Plastic	ORG-VP-1U-B	



POWER DISTRIBUTION UNIT

Power strips PDU in telecommunication cabinets are responsible for power supply to the particular active appliances. Products of Fibrain company are characterized by unique neatness, resistance and flexibility thus our company is able to adjust solutions to the individual customer's requirements and needs. Thanks to demountable and universal handles, we can obtain extended installation possibilities. They enable assembly of power strips in telecommunication cabinets not only in horizontal and vertical position in 19" spacing but they can be also used in subscribers' points. Each power strip has CE certificate as compatibility with European union directives.

Sockets of NF C61-314 standard are used in Poland and France

Index	Number and type of socket	Plug	Controls	Max. load capacity
PDU-5BL	5 x socket with pin	UNISCHUKO	LED switch	16A (3680W)
PDU-9BB	9 x socket with pin	UNISCHUKO	-	16A (3680W)
PDU-8BL	8 x socket with pin	UNISCHUKO	LED switch	16A (3680W)
PDU-9AB	9 x socket with pin	IEC320C14	-	10A (2300W)
PDU-CBB	12 x socket with pin	UNISCHUKO	vertical assembly only	16A (3680W)
PDU-8BP	8 x socket with pin	UNISCHUKO	anti-overvoltage protection	16A (3680W)
PDU-7BF	7 x socket with pin	UNISCHUKO	anti-disturbance filter	16A (3680W)
PDU-6BA	6 x socket with pin	UNISCHUKO	anti-overvoltage protection, anti-disturbance filter	16A (3680W)
PDU-5BC	5 x socket with pin	UNISCHUKO	anti-overvoltage protection, anti-disturbance filter LED switch	16A (3680W)

C13 Computer socket

Index	Number and type of socket	Plug	Controls	Max. load capacity
PDU-8FL	8 x socket IEC320C14	IEC320C14	LED switch	10A (2300W)
PDU-9CB	9 x socket IEC320C14	UNISCHUKO	-	10A (2300W)



Distribution Point

Power Distribution Unit

0.1

SCHUKO Socket

Index	Number and type of socket	Plug	Controls	Max. load capacity
PDU-9SB	9 x SCHUKO	UNISCHUKO	-	16A (3680W)
PDU-6SL	6 x SCHUKO	UNISCHUKO	LED switch	16A (3680W)

Characteristics of PDU power strips:

Features:

- neat housing made of anodizing aluminium,
- dimensions without assembling cantilever: SxWxG: 431x44x44 mm,
- power strips are adjusted to panel assembly 1U 19",
- all power strips are assembled vertically thanks to universal handles installation in 4 planes,
- 4 M6 bolts together with nuts and washers are added to each power strip,
- schuko socket with bolts at 45° protects from inserting incidental objects,
- power cable H05VV-F 3G 1,5mm² (length: 3 m),
- IP20 protection,
- in accordance with CE,
- construction is easily adjusted to client's needs and requirements.

Optional equipment:

- two-positional switch with LED highlighting,
- additional set of handles enabling vertical mounting of the strip,
- number and type of sockets can be easily adjusted to individual client's needs,
- power cable and end pin can be easily adjusted to individual client's requirements,
- ammeter- power tension meter.

Anti-overvoltage protection

Features:

- reaction time <25ns,
- overvoltage energy absorption: 303J (for 10/1000ns impulse),
- nominal current impulse: 7kA,
- maximum current impulse 10kA (impulse wave 8/20ns).

Anti-disturbance filter:

Maximum load capacity					
f[MHz]	0,15	1	4,7	10	30
		symmetric mode			
A [dB]	29	42	30	47	43
		symmetric mode			
A [dB]	25	62	64	43	22



HOUSE CABLING LOGIWIRE

The obligation of assembling fiber optic installation was imposed on the new buildings of public and educational utility as well as multi- family buildings.

In the digital world, it is difficult to keep up with continuously growing requirements imposed on new technologies. A few years ago no one was aware of the obligatory installations of telecommunication infrastructure for the future technologies. At that time, the emphasis was put on satisfying current needs, which had later consequences in change of suppliers or delivery of the new solutions connected with assembly of different telecommunication installations. It resulted in not only higher costs, but also decreased the building's aesthetics. It includes the minimal parameters which should characterize power-low installations.

The most economically worthwhile solutions of fiber optic networks in multi-family buildings are DROP systems (for the small number of users) and EAC-RA (for larger number of users). The perfect complement of given solutions is Logiwire-multimedia cabling system.

LOGIWIRE System

Main aim of this system is to integrate as many systems as possible in one place such as:

- fiber optic networks (e.g. DROP or EAC-RA),
- computer networks (DATA),
- telephone network (PSTN),
- monitoring (CCTV),
- audio system (AUDIO),
- cable television and antenna systems (SatTV/CATV),
- alarm installation,
- interphone installation,
- active appliances,
- and other.

1: GPON Modules

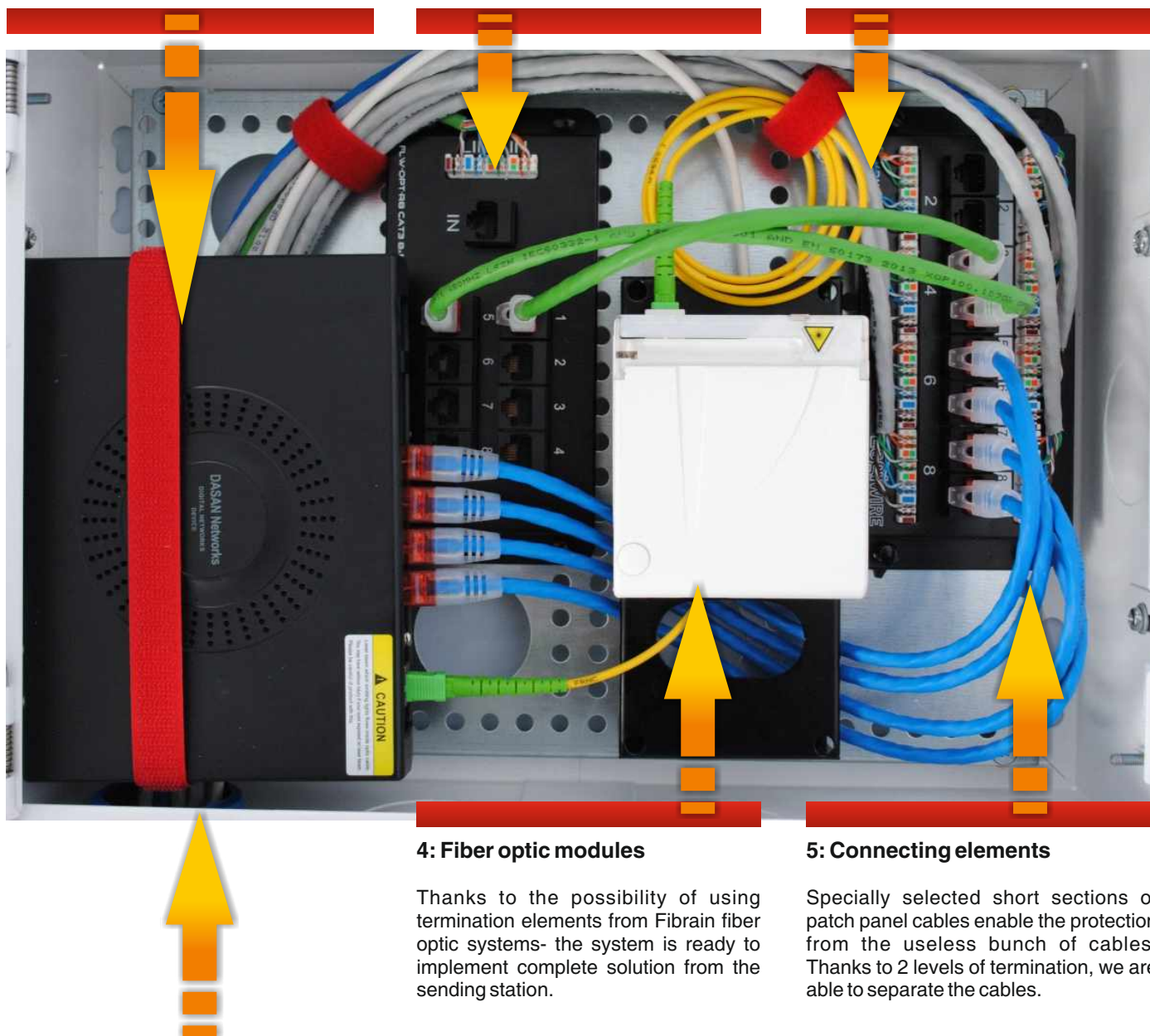
It is a passive fiber optic network in which signal is sent to the particular users with the use of single-mode optical fiber-separated by splitters.

2: Assembling modules

Telephone panel multiplies the entering signals. There is a possibility of termination 4 entering lines out of 8 RJ45ports or IDC connection.

3: DATA Modules

DATA modules (cat. 5e, 6) are used for termination installation cables inside the buildings. They function as a patch panel in a minimized form, which is dedicated for housing market.



4: Fiber optic modules

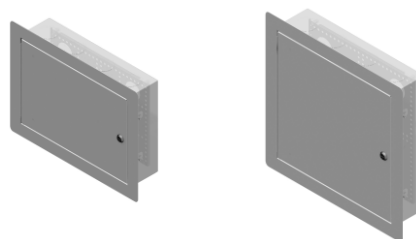
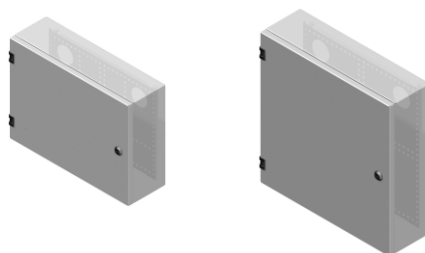
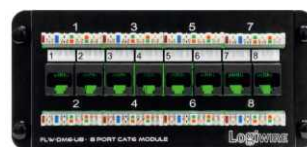
Thanks to the possibility of using termination elements from Fibrain fiber optic systems- the system is ready to implement complete solution from the sending station.

5: Connecting elements

Specially selected short sections of patch panel cables enable the protection from the useless bunch of cables. Thanks to 2 levels of termination, we are able to separate the cables.

6: Multimedia box

- made of powdered- coated steel sheet,
- large number of cable grommets
- lock protection
- horizontal and vertical modules assembly on a demountable back
- right or left door assembly
- available in wall or surface mount option
- standard height is 10, 14, 28 or 48 inches, there is a possibility of adjusting the box to the particular user's needs and requirements.

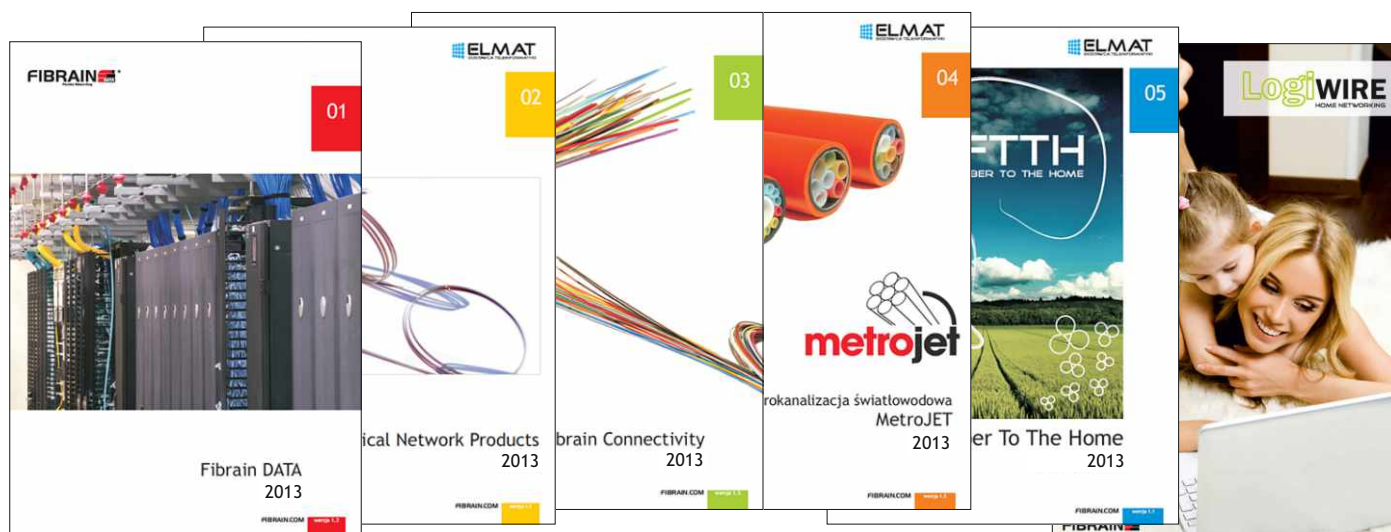
Mounting boxes - in-wall mount**FLW-10N-EH** box 370x270x100 (length x width x depth)**FLW-14N-EH** box 370x370x100**FLW-28N-EH** box 370x720x100**FLW-48N-EH** box 370x1220x100**Mounting boxes- surface mount****FLW-10N-WM** box 370x270x115 (length x width x depth)**FLW-14N-WM** box 370x370x115**FLW-28N-WM** box 370x720x115**FLW-48N-WM** box 370x1220x115**Mounting module- equipped****FLW-DM5-U8** Module 8xRJ45 UTP cat. 5e**FLW-DM5-S6** Module 8xRJ45 FTP cat. 5e**FLW-DM6-U8** Module 8xRJ45 UTP cat. 6**FLW-DM6-S6** Module 8xRJ45 FTP cat. 6**FLW-OPT-I8** Module cat. 3 8pins IDC, RJ45 to 8x8PINS IDC**FLW-OPT-R8** Module IDC/RJ45 to 8xRJ45**Mounting module - not-equipped****FLW-BMP-M1** Mounting module with mounting sieve**FLW-BMP-M2** Module without mounting sieve**FLW-APB-M1** Mounting panel cantilever**FLW-APK-M6** 6x keystone mounting panel**FLW-APK-M4** 4x keystone panel**FLW-APF-M6** 6x F-connector panel**FLW-BMP-T1** deepening module- surface element**FLW-BMP-T2** deepening module

Elmat Group is one of the most modern Polish producer of equipment for contemporary telecommunication.

Product offer is being constantly widened for other innovative products, which are offered as complex telecommunication solutions and marked of our own brand or widely known European concerns.

In the recent years the company has strengthened its position on a market of distribution new telecommunication technologies in particular fiber-optic technologies, which often determine new directions in business (introducing on a market products from the field of fiber optic microducting and solutions for FTTx network).

We encourage and recommend to become familiar with other product offer prepared by the Elmat Group which can be found in the catalogues:



2. **PON** – solutions from the field of passive optical networks. Solutions are mainly dedicated for FTTH networks. Products based on technologies such as CWDM (Coarse Wavelength Division Multiplexing), DWDM (Dense Wavelength Division Multiplexing), WDM-PON for FTTx networks optical circulators, silencers and insulators.

3. **Connectivity** – solutions from the optical telecommunication field. Nowadays, fiber optic technology is present and used in almost every branch of the industry, telecommunication, transport, security systems and many other branches available in the market.

4. **MetroJet** – modern microduct solution which fulfils demanding expectations in telecommunication duct system. Microcables used in microduct are installed by modern air-blowing technique.

5. **FTTH** – as a supplier of modern solutions we perfectly understand that implementation of FTTH network comes across wide diversification of planning areas which require not one, but a few technologies compatible with each other. The content of our portfolio includes solutions which can be applied to almost all area of topology.

6. **Logiwire** – integrated cabling system of the house. The relevant problem which exists in the building industry is the lack of integration of the particular cabling types in the user's house. The aim of the Logiwire system is to integrate such systems as CATV, PHONE, COPPER DATA, FO, SECURITY and others in only a one box.

FibrainDATA

2013/14

P.H. ELMAT Sp. z o.o.
Research & Development
and Logistic Center

Rogoźnica 312
36-060 Głogów Małopolski
Poland

tel. +48 17 866 08 00
tel. +48 17 866 08 30
fax: +48 17 866 08 10

e-mail: elmat@elmat.pl

Branch Warszawa

Heliotropów 1 Rd.
04-796 Warszawa
Poland

tel. +48 22 872 52 50
tel. +48 22 872 52 51
fax: +48 22 872 52 51

e-mail: warszawa@elmat.pl

Branch Łódź

Kolumny 242 Rd.
93-613 Łódź
Poland

tel. +48 42 649 99 70
tel. +48 42 649 99 71
fax: +48 42 649 95 33

e-mail: lodz@elmat.pl

Branch Katowice

Korfantego 181B Rd.
40-153 Katowice
Poland

tel. +48 32 350 42 00
tel. +48 32 259 71 48
fax: +48 32 259 71 48

e-mail: katowice@elmat.pl

Branch Kraków

Jana Dekerta 18 Rd.
30-703 Kraków
Poland

tel. +48 12 296 77 78
tel. +48 12 296 77 80
fax: +48 12 296 77 05

e-mail: krakow@elmat.pl

