DATA SOLUTION PRODUCT GUIDE

Second Edition

Cabling Solutions

DĀTWYLER

Data Solution Product Guide

Content

Datwyler

Datwyler is a leading provider of high-quality system solutions and services for electrical building infrastructure, including data networks, safety cable systems, building automation and elevator cable systems. With over 90 years of experience, we possess the knowledge that makes us an innovator in the market. With in-house development and manufacturing of copper and fibre optic cables, as well as a full range of system components, Datwyler offers comprehensive total solutions including consulting, engineering, project management, training, manufacturing, logistics and warranty and maintenance services. Datwyler also offers **complete turn-key project services.**

Our customer base includes banks, insurance companies, industrial companies, telecommunication companies, airport operators, governments, large construction contractors and many more.

Datwyler is part of the globally active Datwyler Group, which with over 5000 employees, generates annual sales in excess of £1Billion.

Milestones

1915	Adolf Datwyler founded the company and began producing electrical conductors using aluminium.
1926	The production of telephone cables began
1944	The production of high-frequency cables began.
1973	The value chain was extended by adding cable harnessing. Datwyler produced the first flat cable for lifts with up to 400 metre shaft height.
1986	The production of fibre optic cables began.
1987	Data cable and the future-proofing concept for structured building cabling were introduced.
1991	Pyrofil® safety cable became the first cable in the world to successfully pass E90 testing as per DIN 4102-12.
1998	International expansion: Datwyler entered the Chinese market.
2000	The ecobus® flatcabling-system was extended by active components.
2002	optofil® Safety became the first metal-free fibre optic cable with E30 functional integrity as per DIN 4102-12.
2004	Datwyler presents FloorLink, the economical cabling system for elevator shafts.
2005	Datwyler significantly expands its international distribution network in Eastern Europe and the Middle East.
2008	Datwyler enhances its portfolio by introducing Copper Trunks and the Modular High Density System that specifically address the increased demand for efficient data centre cabling, faster installation time, easier maintenance, more efficient use of space and future scalability.
2009	Introduction of a new building automation portfolio based on the KNX standard, optimized for commercial and public buildings. Datwyler offers complete turn-key solutions for FTTH networks.

Quality

Quality Service

At Datwyler, we keep all components for our system solutions in stock at all times, and can therefore guarantee fast delivery. We can answer any query promptly and efficiently, with careful consideration towards the current and future requirements of our clients. Our engineering teams deliver projects on time and within budget, and to the correct specification.

State of the art technologies

Datwyler invest year-on-year in improved material and process technologies, production equipment and test methods. This is why our system solutions regularly exceed industry expectations. We set new standards.

Quality as a constant mission - without compromise

In practice, the important functions that our system solutions provide demand the highest levels of safety and reliability. We therefore test and validate every product and system solution using the most stringent quality-control process. Quality without compromise is a constant expectation for all of our employees. It is also our guarantee to our customers.

Quality assurance

All of our business processes are integrated into the internationally recognised quality assurance systems ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999.

· Planning and development
· Procurement of raw materials
· External inspection and testing
· Automated manufacturing
· Functional testing
· Assembly processes
· Logistics
· Sales

We surpass all industry standards

Within the development phase of every product, Datwyler define quality specifications that go beyond the usual industry standards. In addition to general quality-control inspections, our products undergo application-specific testing. With the help of qualified specialists, Datwyler have developed a series of sophisticated test machines specifically for this purpose. We use these to measure every type of cable and every system component against our own rigorous quality specifications. Such extreme testing procedures ensure that all Datwyler' systems will maintain their integrity, even under the most demanding conditions.

Services

Datwyler offer a comprehensive range of services that cover the whole life-cycle of your cabling and electrical infrastructure. This offering includes consulting, engineering, implementation and maintenance:

• Auditing
• Site Surveys
• Network Design
• Tenders, RFP
• Project Management
• Installation
• Rapid Deployment
• Material Logistics and
  Engineering Management
• Documentation
• Equipment Installation
• Maintenance
• Moves, Adds, Changes
• Project Sign Off
• Post Project Support

Turn-Key Projects

Datwyler serve as your single global contact for cabling and electrical infrastructure projects. We will ensure quality standards are adhered to and that projects are delivered on time and to budget. Through our certified partner network we are able to efficiently roll-out multi-site projects all over the world. Our transparent project reporting provides our clients with the ability to know the exact status of the project at any time. Comprehensive documentation further ensures the quality of the work. Material logistics plays an important part in multi-site projects. Together with our logistics partners we ensure that all materials are on-site precisely on schedule, in order that projects can be delivered on time.

Advice
Safety
Planning
Building automation
Implementation
Energy
Maintenance
Communication

Electrical and communication building infra-structure

System Solutions

System Solutions

As a supplier of system solutions for data cabling, Datwyler provide future- proofed solutions for data centres, amongst other applications. The design of a data centre must ensure the client receives the maximum level of security. This applies to the building (e.g., access control and air conditioning), the electric power supply (UPS), any active devices and, of course, the cabling system.

**Major topics to consider within the design
of a data centre include:**

- bandwidth
- reliability (Quality)
- packing density

- fast completion times
- clear design
- modularity and scalability

▶ capacity for future expansion
▶ during installation and operation
▶ cabling system
▶ racks and cabinets
▶ use of pre-assembled cables

To meet these demands, a modular cabling system was developed which supports both pre-assembled copper and fibre optic connections, both of which can terminate within the same bespoke enclosures, all within high density frames.

However, not every computer room, datacentre or office building structured cabling design calls for the same solution. The versatility of the Datwyler portfolio means that we can offer a wide range of products and systems which can accommodate almost every requirement. Essentially, we deliver three different approaches to our cabling solutions: Classic Solution, Trunk or Pre-Terminated Solution, and Modular High Density Solution.

The **Classic Solution** comprises of the traditional patch panel, module and single data cable. It has been widely deployed globally over the years. Our Classic Solution is ideal for simple installations; from single office units to large and complex installations, all with the highest quality and performance demands.

The **Trunk or Pre-Terminated Solutions** add the flexibility of pre-configured and pre-tested copper and fibre optic cable trunks. Trunk Solutions require detailed and accurate design at the planning stage, but time is saved later during installation. Also, trunks can be pre-terminated and quality controlled, which reduces the need of on-site testing. Labour savings for trunk or pre-terminated installations are up to 80%.

The **Modular High Density Solution** adds two dimensions to the classic and trunk portfolio: modularity and high density. With the Modular High Density Solution we can achieve double the number of ports compared to a classic solution within the same area. Furthermore, fibre optic and copper ports can both be terminated on to the same panel. At times it can be difficult to predict future expansion requirements, and denominations between copper and fibre ports within new rack space. The Modular High Density Solution provides you with an easy answer to the dilemma of planning for the future.

Although the Modular High Density Solution is more expensive at first glance, the total cost including the reduced installation time renders the MHD and Classic solutions comparable. The plug'n'play capability allows installation and future MAC's to be carried out without the need for a splicing specialist engineering on site.

The following two tables compare the different approaches with Gold being the highest recommendation based on project requirment, as each solution has its own advantages. This comparison not only considers the material costs, but also the equipment and engineering required on-site. The total cost of ownership considers the whole life-cycle of the cabling. Should you require any further information, Datwyler will be happy to assist.

Datwyler Copper Cabling Solutions for Data Centre	Classic	Trunk	High Density
Planning lead time	Bronze	Gold	Gold
Assembly time	Gold	Bronze	Bronze
Required space into the rack	Silver	Silver	Bronze
Required space on cable ducts	Silver	Silver	Bronze
Fire load	Silver	Silver	Gold
Flexibility (Moves, Adds, Changes)	Gold	Bronze	Gold
Total Cost of Ownership (TCO)	Silver	Bronze	Bronze

Datwyler Fibre Optic Cabling Solutions for Data Centre	Classic	Trunk	High Density
Planning lead time	Bronze	Gold	Gold
Assembly time	Gold	Bronze	Bronze
Required space into the rack	Silver	Silver	Bronze
Required space on cable ducts	Silver	Silver	Bronze
Fire load	Silver	Silver	Gold
Flexibility (Moves, Adds, Changes)	Gold	Bronze	Gold
Total Cost of Ownership (TCO)	Silver	Bronze	Bronze

Legend: Bronze   Silver   Gold

Data Communication Solutions

Copper Cabling System

The Datwyler product range includes screened and unscreened copper system solutions (categories 5e to 7_A) for the transmission of voice, data, video, control signals and remote power (power over Ethernet, PoE).

The Datwyler Cat.6 product range offers excellent performance for 1GBase-T within office applications.
With the Cat.6_A product range, channel installations for Class E_A (up to 500MHz) comply with the current state of the art technologies. The Cat.6_A portfolio from Datwyler delivers the solution for 10GBase-T applications (according to IEEE 802.3an) for office and for data centre infrastructure. For a future-proof installation Datwyler advise the deployment of a high-end Cat.7_A network. With the combination of Cat.7_A cables and modules, it is possible to deliver performance of up to 40GBase-T. With the Cat.7_A systems for Class F_A, the network infrastructure will be ready for future technology. The demand placed upon the cabling system increases every day, especially within data centres, where making allowance for future technologies like Class F_A is essential.

STP vs. UTP

The higher the demands on data infrastructure, the greater the influence will be from the surrounding systems. As part of the new ISO 11801/Amendment.1: 2008 standard, new parameters have been set against Coupling Attenuation and Alien Cross Talk. These parameters demand an error-free 1GBase-T and 10GBase-T application. An independent analysis within a third party laboratory has highlighted the problem from outside influence. A mobile phone within the area of a 1GBase-T application can create interference on a 1GBase-T UTP application.
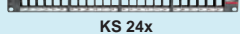
Datwyler therefore recommend shielded channel solutions for guaranteed performance on a secure network.
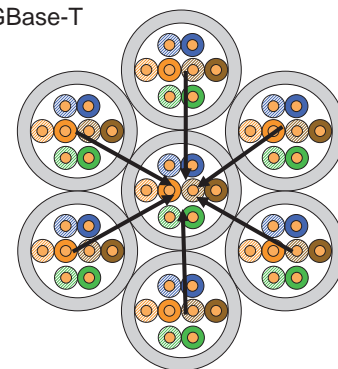
Datwyler Cables
+ **Datwyler Components**
+ **Quality Engineering**
= **20-year warranty**

The sophisticated training and certification programme for installation partners guarantees the optimal installation quality of our products. Certified installers are authorised to provide our 20-year End-to-End System Warranty.

Cabling Solutions

Category / Class	Patch Panel	Data Cable	Module	Patch Cord
screened				
7_A / $F_{A\ (1000\ MHz)}$ 40GBase-T (future)	**MGK 24x** unloaded, stainless steel (GG-45) **MPS 24x** unloaded, stainless steel (TERA)	**7150 4P** S/FTP, AWG 22 **7120 4P** S/FTP, AWG 23	**PS-GG45 7A** Cat. 7_A **PS-TERA 4P** Cat. 7_A	**PS-GG45 4P** **PS-TERA 4P**
6_A / $E_{A\ (500\ MHz)}$ 10GBase-T	**KS 24x** Keystone Patch Panel unloaded	**7060 4P** S/FTP, AWG 23 **6552 4P** F/FTP, AWG 23 **6502 4P** U/FTP, AWG 23	**KS-T 6_A (IEC)** Cat. 6_A	**RJ45** **Cat. 6/E_A** 7702 flex
6 / $E_{(250\ MHz)}$ 1GBase-T / 100Base-T	**KS 24x** Keystone Patch Panel unloaded	**7060 4P** S/FTP, AWG 23 **6002 4P** U/FTP, AWG 23	**KS-TS 1/8** Cat. 6 **KS 1/8** Cat. 6	**RJ45** **Cat. 6/E_A** 7702 flex

Category / Class	Patch Panel	Data Cable	Module	Patch Cord
unscreened				
6 / $E_{(250\ MHz)}$ 1GBase-T / 100Base-T	**KU 24x** Keystone Patch Panel unloaded	**662 4P** U/UTP+, AWG 24	**KU-T 1/8** Cat. 6	**RJ45** **Cat. 6** 602 flex

Class F$_A$ / Cat. 7$_A$ - shielded

Data cable Cat. 7$_A$

- Cu-Data cable up to 1200 MHz 4 x 2 x AWG22
  for structured premises cabling
- Applicable standards: EN 50173-1:2002,
  ISO/IEC 11801:2002/A2:2010
- Application up to 10GBase-T, Future-proof up to 40 GBase-T
- optimized for broadband video signals, e.g. analog
  and digital TV signals
- Ready for POE+
- specifically applicable for Class F$_A$

S/FTP

7150 4P S/FTP AWG 22 Multimedia

Article No.	Dimension	Type	Sheath	Sheath Ø	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)			mm	kg/km	kg/km	kWh/m	MJ/m		
182 925	4 x 2 x 0,64 (AWG22)	HF-4290-U	FRNC/LS0H[1]	7,8	69,2	40,2	0,18	0,65	orange RAL 2003	1000m Drum

7120 4P S/FTP AWG 23

Article No.	Dimension	Type	Sheath	Sheath Ø	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)			mm	kg/km	kg/km	kWh/m	MJ/m		
191 466	4 x 2 x 0,58 (AWG23)	HF-4402-U	FRNC/LS0H[1]	7,5	63,0	32,3	0,18	0,649	orange RAL 2003	1000m Drum

[1] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

Modules

PS-GG45 and PS-TERA shielded Cat.7$_A$

- especially developed for applications beyond 10GBase-T
- PS-GG45 – the "Two-in-One Module" has 12 contacts,
  which work in 2 different transmission modes:
  Standard=RJ45 and High-Speed=GG45
- PS-TERA™ – for Patch cord PS-TERA™

PS-GG45 7A, Cat. 7$_A$

PS-TERA 4P, Cat. 7$_A$

Termination Tool for PS-GG45

PS-TERA tool

Parallel pliers

Article No.	Description	Colour	PU
400 102	Module PS-GG45 7A 1000MHz 4P Two-in-One shielded	metal	10 pieces
400 103	Module PS-GG45 7A 1000MHz 4P Two-in-One shielded, for stranded wires	metal	10 pieces
1408 502	Module PS-TERA 4P Cat.7$_A$/F$_A$ 1000MHz	black	1 piece
400 105	Termination Tool for PS-GG45	red	1 piece
1409 210	PS-TERA tool for easy preparing the cable	yellow	1 piece
1412 330	Parallel pliers for termination of Modules	blue	1 piece

Patch Cords

GG45™ Connecting System
Measurement-/Patch Cord GG45 7A 1000 MHz 4P shielded
Adapter Patch Cord GG45 7A/RJ45 4P shielded

- The Measurement Cords GG45 7A 1000MHz 4P are primarily
  needed for acceptance measurements.
- The GG45 7A plugs are not backward compatible with RJ45-Jacks.
The combination of a high performance GG45 cabling system
with RJ45 active devices can only be achievable with an adapter
patch cord (GG45-RJ45).

Measurement-/Patch Cord   Adapter Patch Cord

Article No.	Length	Patch cord	plug1	plug 2	Cable	Colour	Wiring
	m						
400 120	2.0	Measurement-/Patch Cord 4P 1000 MHz	GG45 7A	GG45 7A	FRNC/LS0H	orange	1:1
400 121	1.0	Adapter Patch cord 4P	GG45 7A	RJ 45	FRNC/LS0H	orange	1:1
400 122	2.0	Adapter Patch cord 4P	GG45 7A	RJ 45	FRNC/LS0H	orange	1:1
400 123	3.0	Adapter Patch cord 4P	GG45 7A	RJ 45	FRNC/LS0H	orange	1:1
400 125	5.0	Adapter Patch cord 4P	GG45 7A	RJ 45	FRNC/LS0H	orange	1:1

PS-TERA/RJ45
with flex cable 7702 flex

- Multimedia cabling
- 7702 flex 4P FRNC/LS0H (Pimf) up to 1000 MHz, screened
- Applicable standards: ISO/IEC 11801 2nd Ed. Amd.2 EN 50173: 2007
- for Class F$_A$/ Cat.7$_A$ both ends of the patchcord are wired up with
  a PS-TERA P4 plug

Article No.	Length	Colour boot		Adaption	Description	Cable	Cable colour	Pin connection
	m	PS	RJ45					
654 058	1.0	black	black	Patch Cord	PS-TERA 4P to RJ45	7702 flex 4P FRNC/LS0H	grey	1:1
654 060	2.0	black	black	Patch Cord	PS-TERA PS 4P to RJ45	7702 flex 4P FRNC/LS0H	grey	1:1
654 062	3.0	black	black	Patch Cord	PS-TERA PS 4P to RJ45	7702 flex 4P FRNC/LS0H	grey	1:1
654 066	5.0	black	black	Patch Cord	PS-TERA PS 4P to RJ45	7702 flex 4P FRNC/LS0H	grey	1:1
654 158	1.0	yellow	yellow	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (A)
654 160	2.0	yellow	yellow	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (A)
654 162	3.0	yellow	yellow	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (A)
654 166	5.0	yellow	yellow	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (A)
654 258	1.0	blue	grey	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	TR
654 260	2.0	blue	grey	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	TR
654 262	3.0	blue	grey	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	TR
654 266	5.0	blue	grey	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	TR
654 208	1.0	red	red	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (B)uplink
654 210	2.0	red	red	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (B)uplink
654 212	3.0	red	red	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (B)uplink
654 216	5.0	red	red	Patch Cord	PS-TERA PS 2P to RJ45	flex 2P Multimedia FRNC/LS0H	grey	100BT (B)uplink

note: customised patch cords (e.g. length, type) on request

Class E$_A$ / Cat. 6$_A$ - shielded

For more information and products please visit www.datwyler.com

Data cable Cat. 6$_A$

- Cu-Data cable up to 500 MHz 4x2xAWG23
  for structured premises cabling
- applicable up to 10GBase-T
- Applicable standards: EN 50173-1:2002,
  ISO/IEC 11801:2002/A2:2010

S/FTP

F/FTP

U/FTP

7060 4P S/FTP AWG23

Article No.	Dimension	Sheatth	Sheath Ø	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
182 924	4 x 2 x 0,55 (AWG23)	FRNC/LS S0H[1]	7,1	55,0	26,4	0,152	0,55	orange RAL 2003	1000m Drum

6552 4P F/FTP AWG23

Article No.	Dimension	Sheatth	Sheath Ø	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
191 454	4 x 2 x 0,55 (AWG23)	FRNC/LS S0H[1]	7,0	48,5	20,0	0,14	0,52	orange RAL 2003	1000m Drum

6502 4P U/FTP AWG23

Article No.	Dimension	Sheatth	Sheath Ø	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
191 453	4 x 2 x 0,55 (AWG23)	FRNC/LS S0H[1]	7,0	47,8	20,0	0,15	0,55	orange RAL 2003	1000m Drum

[1] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

Module

RJ45 Module shielded Cat. 6$_A$/E$_A$

Article No.	Description	Colour	PU
418 061	Module KS-T 6$_A$ 1/8 (IEC) Tool-less Cat. 6$_A$/E$_A$ shielded	metallic	10 pieces

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Data cable Cat. 6

- Cu-Data cable up to 300 MHz 4x2xAWG23
  for structured premises cabling
- applicable up to 1GBase-T
- Applicable standards: EN 50173-1:2002,
  ISO/IEC 11801:2002/A2:2010

S/FTP

U/FTP

7060 4P S/FTP Cat.6$_A$ AWG23 (Cat.6$_A$ Data Cable for better performance)

Article No.	Dimension	Sheath	Sheath .	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
182 924	4 x 2 x 0,55 (AWG23)	FRNC/LS0H[1]	7,1	55,0	26,4	0,152	0,55	orange RAL 2003	1000m Drum

6002 4P U/FTP Cat.6 AWG23

Article No.	Dimension	Sheath	Sheath .	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
182 936	4 x 2 x 0,55 (AWG23)	FRNC/LS0H[1]	7,0	47,8	20,0	0,15	0,55	orange RAL 2003	1000m Drum

[1] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

Modules

RJ45 Modules shielded Cat. 6

KS-TS 1/8 Cat. 6, shielded
tool-less

KS 1/8 Cat. 6, shielded

Insertion Tool 110

Keystone Hand Puck

Article No.	Description	Colour	PU
418 054	RJ45 Keystone KS-TS 1/8 Cat. 6 shielded Tool-less	metallic	10 pieces
418 050	Keystone Module KS 1/8 Cat.6 shielded	metallic	10 pieces
185 896	Insertion Tool 110 (recommended for RJ45 Keystone modules)	blue/grey	1 piece
185 898	Keystone Hand Puck, installation aid for RJ45 Keystone modules	red	1 piece

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Class E / Cat. 6 - unshielded

For more information and products please visit www.datwyler.com

Data cable Cat. 6

- Cu-Data Cable up to 300 MHz
  for structured premises cabling
- Applicable standards: EN 50173-1:2002,
  ISO/IEC 11801:2002/A2:2010
- Applicable up to 1000 Base-T

U/UTP
(with cross)

662 4P U/UTP AWG24 (with cross)

Article No.	Dimension	Sheath	Sheath •	Weight	Cu weight	Fire load		Colour	PU
	n x n x mm (AWG)		mm	kg/km	kg/km	kWh/m	MJ/m		
185 586	4 x 2 x 0,55 (AWG24)	FR/PVC[2]	6,0	39,8	19,4	0,2	0,72	grey RAL 7037	1000m Drum
185 596	4 x 2 x 0,55 (AWG24)	FRNC/LS0H[1]	6,0	41,3	19,4	0,17	0,60	orange RAL 2003	1000m Drum
385 586	4 x 2 x 0,55 (AWG24)	FR/PVC[2]	6,0	39,8	19,4	0,2	0,72	grey RAL 7037	305m Box
391 361	4 x 2 x 0,55 (AWG24)	FRNC/LS0H[1]	6,0	41,3	19,4	0,17	0,60	orange RAL 2003	305m Box

[1] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

[2] FR/PVC = Flame Retardant/Polyvinylchloride

Modules

RJ45 Module unshielded Cat.6

KU-T 1/8 Cat. 6, unshielded
tool-less

KU 1/8 Cat. 6, unshielded

Insertion Tool 110

Keystone Hand Puck

Article No.	Description	Colour	PU
418 070	RJ45 Module KU-T 1/8 Cat.6, unshielded tool-less	white	10 pieces
418 071	RJ45 Module KU-T 1/8 Cat.6, unshielded tool-less	black	10 pieces
418 080	RJ45 Keystone KU 1/8 Cat.6, unshielded	white	10 pieces
418 081	RJ45 Keystone KU 1/8 Cat.6, unshielded	black	10 pieces
185 896	Insertion Tool 110 (recommended for RJ45 Keystone modules)	blue/grey	1 piece
185 898	Keystone Hand Puck, installation aid for RJ45 Keystone modules	red	1 piece

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Patch Panel

for PS-GG45 and PS-TERA Modules

MGK 24x for PS-GG45

MPS 24x for PS-TERA 4P

KS 24x for PS-GG45

Article No.	Description	Colour	PU
440 042	Patch Panel MGK 24x, 19" 1U , for 24x RJ45-Keystone Modules (FTP) (delivered without modules) specially for PS-GG45 7A Modules	stainless steel	1 piece
418 019	Patch Panel KS 24x, 19" 1U, for 24x RJ45-Keystone Modules (FTP) (delivered without modules)	black RAL 9005	1 piece
418 020	Patch Panel KS 24x, 19" 1U, for 24x RJ45-Keystone Modules (FTP) (delivered without modules)	grey RAL 7035	1 piece
185 840	Patch Panel MPS 24x, 19" 1U, for 24x PS-TERA-Modules or RJ45-Keystone Modules Cat.6 (delivered without modules)	grey RAL 7035	1 piece
185 841	Patch Panel MPS 24x, 19" 1U, for 24x PS-TERA-Modules or RJ45-Keystone Modules Cat.6 (delivered without modules)	stainless steel blank	1 piece

Patch Panel

for RJ45 Module shielded Cat. 6A/EA

KS 24x
Keystone Patch Panel
unloaded

CSA 24/8 Cat.6A/EA (Channel)
alternative Compact Solution
inclusive modules

Keystone angled patch panel
2U 48port

Article No.	Description	Colour	PU
418 019	Patch Panel KS 24x, 19" 1U, for 24x RJ45-Keystone Modules (FTP) (delivered without modules)	black RAL 9005	1 piece
418 020	Patch Panel KS 24x, 19" 1U, for 24x RJ45-Keystone Modules (FTP) (delivered without modules)	grey RAL 7035	1 piece
417 980	Patch Panel CSA 24/8 Cat. 6/EA with 24x RJ45-Keystone Modules (FTP)	grey RAL 7035	1 piece
4 000100	Patch Panel KU48x, 19" 2U, for 48x RJ45-Keystone Modules. Delivered without modules	black RAL 9005	1 piece

Patch Panel

for RJ45 Module unshielded Cat. 6

KU 24x
Keystone Patch Panel unloaded

Article No.	Description	Colour	PU
418 021	Patch Panel KU 24x, 19" 1U, for 24x RJ45-Keystone Modules, UTP (delivered without modules)	grey RAL 7035	1 piece
418 022	Patch Panel KU 24x, 19" 1U, for 24x RJ45-Keystone Modules, UTP (delivered without modules)	black RAL 9005	1 piece

Accessories

For more information and products please visit www.datwyler.com

Accessories

Blank covers for Keystone openings in Patch Panels

Management System

Article No.	Accessories/Description	Colour/Material	PU
418 010	Blank cover for KS openings in Patch Panels	black	10 pieces
418 011	Blank cover for KS openings in Patch Panels	white	10 pieces
1411 604	Management panel 19'',1U, for 5 brackets	grey	1 piece
1407 689	Management panel 19'',1U, for 5 brackets	black	1 piece
418 200	Management panel 19'',1U, for 5 brackets	stainless steel blank	1 piece
1411 481	Support bracket 75mm	metallic	1 piece
1411 482	Support bracket 110mm	metallic	1 piece
401 241	Blind plate 19'', 1U	black	1 piece
401 244	Blind plate 19'', 2U	black	1 piece
401 240	Blind plate 19'', 1U	grey	1 piece
401 243	Blind plate 19'', 2U	grey	1 piece
401 242	Blind plate 19" , 1U	stainless steel	1 piece
401 245	Blind plate 19" , 2U	stainless steel	1 piece

Faceplates

Faceplates for PS-TERA modules

1. Faceplate 2x
(flush mounted)
88x88mm
Swiss standard

2. Faceplate 2x
(surface mounted)
88x88x67 mm
Swiss standard

3. Faceplate angled 2x
(flush duct mounted)
80x80mm
German standard

	Article No.	Description	Colour (similar)	PU
1	185 763	Flush faceplate, angled outlet for up to 2x PS/MS modules, with cover frame, without modules	white RAL 9010	1 piece
2	185 762	Wall mounted outlet Edizio 56mm, angled, for up to 2x PS/MS modules, without modules	white RAL 9010	1 piece
3	1408 505	Faceplate for 2 modules PS-TERA (without cover frame and modules)	white RAL 9010	1 piece
	1400 830	Cover frame 80x80 for Faceplate Article No. 1408 505	white RAL 9010	1 piece

Faceplates

Faceplates for RJ45 modules

British standard							
	1. 1-Port angled 2. 2-Port angled		3. 1-Port straight outlet 4. 2-Port straight outlet		5.Single gang outlet		6. twin gang outlet

flush duct mounted
Cover frame: 86x86mm

flush mounted
Central Plate: 50x50 mm (2x25x50mm)
Cover Frame: 86x86 mm

2 ports
Cover frame: 86x86 mm

4 ports
Cover frame: 86 x146 mm

Universal

7. Surface Mount Box

8. Surface Mount Box
with dust shutters

surface mounted
for 2 Modules: 68x65x60 mm
for 4 Modules: 118x85x30 mm

	Article No.	Description	Colour (similar)	PU
British standard				
1	185 862	Faceplate for 1x RJ J45-Keystone module, without module	white RAL 9010	1 piece
2	185 863	Faceplate for 2x RJ45-Keystone modules, without modules	white RAL 9010	1 piece
3	185 864	Faceplate for 1x RJ45-Keystone module, without module	white RAL 9010	1 piece
4	185 865	Faceplate for 2x RJ45-Keystone modules, without modules	white RAL 9010	1 piece
5	221560	Single gang faceplate	white RAL 9010	1 piece
6	221561	Twin gang faceplate	white RAL 9010	1 piece
	221562	1/4 Blank 50x12.5mm Datwyler white	white RAL 9010	1 piece
	221563	1/2 Blank 50x25mm Datwyler white	white RAL 9010	1 piece
	221564	Full Blank 50x50mm Datwyler white	white RAL 9010	1 piece
Universal				
7	418 035	Surface Mount Box for 2 Keystone Modules, delivered without modules	white RAL 9010	1 piece
	418 036	Surface Mount Box for 4 Keystone Modules, delvery without modules	white RAL 9010	1 piece
8	418 037	Surface Mount Box with dust shutters for 2 Keystone Modules, delivery without modules	white RAL 9010	1 piece
	418 038	Surface Mount Box with dust shutters for 4 Keystone Modules, delivery without modules	white RAL 9010	1 piece

Class E$_A$ / Cat. 6 + Cat. 6$_A$ - shielded

For more information and products please visit www.datwyler.com

Patch Cords

RJ45 Cat. 6/E$_A$ 500 MHz, screened, wiring 1:1

with 7702 flex 4P Cat.7
suitable for 1GBase-T and 10GBase-T transmission

- Cu-Patch cords Cat. 6/E$_A$ (4x2xAWG26)
  for structured premises cabling
- Applicable standards: EN 50173-1:2002, ISO/IEC 11801:2002/A2:2010
- Customized adjustments (bend limiting boot, termination, label)
  are available at short notice

Length/Meter	Patch Cord RJ45 Cat.6/E$_A$ screened, wiring 1:1 (mit 7702 flex 4P FRNC/LSOH Cat.7)					
	grey	green	yellow	red	blue	orange
0,5	653 503	653 553	653 603	653 653	653 703	653 753
1,0	653 508	653 558	653 608	653 658	653 708	653 758
1,5	653 509	653 559	653 609	653 659	653 709	653 759
2,0	653 510	653 560	653 610	653 660	653 710	653 760
2,5	653 511	653 561	653 611	653 661	653 711	653 761
3,0	653 512	653 562	653 612	653 662	653 712	653 762
4,0	653 514	653 564	653 614	653 664	653 714	653 764
5,0	653 516	653 566	653 616	653 666	653 716	653 766
6,0	653 518	653 568	653 618	653 668	653 718	653 768
7,0	653 520	653 570	653 620	653 670	653 720	653 770
8,0	653 522	653 572	653 622	653 672	653 722	653 772
9,0	653 524	653 574	653 624	653 674	653 724	653 774
10,0	653 526	653 576	653 626	653 676	653 726	653 776
12,5	653 527	653 577	653 627	653 677	653 727	653 777
15,0	653 528	653 578	653 628	653 678	653 728	653 778
20,0	653 530	653 580	653 630	653 680	653 730	653 780

Patch Cords

**RJ45 Cat. 6 250 MHz,
unscreened, 4P wiring 1:1**

Patch cords U/UTP with FR/PVC[1] or FRNC/LSOH[2] sheath in grey
- with moulded and bend limiting boots

Length/Meter[3]	FR/PVC[1]	FRNC/LSOH[2]
	grey	grey
1,0	309 021	309 321
1,5	309 022	309 322
2,0	309 023	309 323
3,0	309 025	309 325
4,0	309 026	309 326
5,0	309 027	309 327
7,0	309 029	309 329
10,0	309 031	309 331

[1] FR/PVC = Flame Retardant/Polyvinylclorid

[2] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

[3] other length on request, min order quantity = 100 pieces

Patch cords with 602 flex 4P FRNC/LS0H[2]
- with coloured bend limiting boot Cat.6

Length/Meter	grey	green	yellow	red	blue	white	black
0.5	651 553	651 853	651 703	651 803	651 753	651 653	651 603
1.0	651 558	651 858	651 708	651 808	651 758	651 658	651 608
1.5	651 559	651 859	651 709	651 809	651 759	651 659	651 609
2.0	651 560	651 860	651 710	651 810	651 760	651 660	651 610
2.5	651 561	651 861	651 711	651 811	651 761	651 661	651 611
3.0	651 562	651 862	651 712	651 812	651 762	651 662	651 612
4.0	651 564	651 864	651 714	651 814	651 764	651 664	651 614
5.0	651 566	651 866	651 716	651 816	651 766	651 666	651 616
6.0	651 568	651 868	651 718	651 818	651 768	651 668	651 618
7.0	651 570	651 870	651 720	651 820	651 770	651 670	651 620
7.5	651 571	651 871	651 721	651 821	651 771	651 671	651 621
8.0	651 572	651 872	651 722	651 822	651 772	651 672	651 622
10.0	651 576	651 876	651 726	651 826	651 776	651 676	651 626
15.0	651 578	651 878	651 728	651 828	651 778	651 678	651 628
20.0	651 580	651 880	651 730	651 830	651 780	651 680	651 630

[2] FRNC/LS0H = Flame Retardant Non Corrosive/Low Smoke Zero Halogen

Fibre Optic Overview

For more information and products please visit www.datwyler.com

Premises Networks

Application spaces
From a communications pathway perspective, premises networks consist of four primary spaces:

Backbone (Campus)   OS2, OM3
Data Centre   OS2, OM3, OM4
Riser   OS2, OM3
Horizontal (Desk)   OM2, OM3

The premises network outlined on the right side, or portions thereof, may also be called a local area network (LAN) or enterprise network.
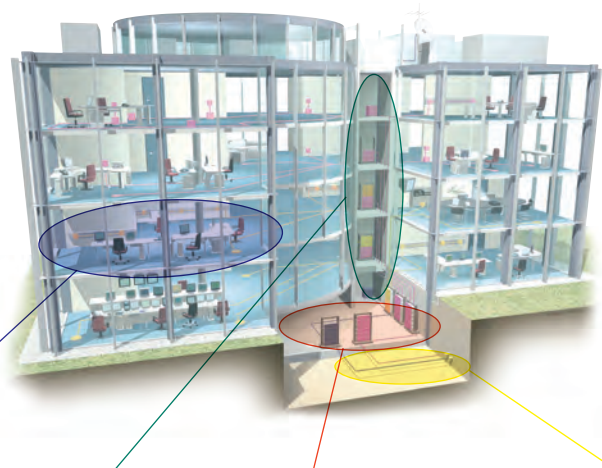
Top 5 design considerations
• Link length
• Data rate
• Future performance
• Information security
• Environmental requirements

Two Major Fibre Classifications
The two major classifications of optical fibre are multimode and singlemode.

Horizontal (Desk)	Riser	Data Centre	Backbone (Campus)
The horizontal serves the desk or application workspace	The riser joins together equipment in a floor-level tele-communications closet and upper floor closets or zones.	The data centre is a facillity dedicated to data-intensive applications, where racks of interconnected equipment manage large amounts of information.	The backbone is typically the longest run in a premises network, often interbuilding.

Singlemode Fibre

Singlemode fibres are best suited for longer distance applications (> 1 km). Singlemode fibre is designed to carry only one mode of light, and thus does not experience modal dispersion like multimode fibre. For this reason, singlemode fibre is not limited by modal bandwidth, but rather by attenuation, chromatic dispersion and higher overall system cost (driven by the higher cost of singlemode transceivers).

Coating   Cladding   Core
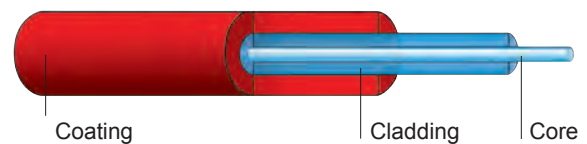
Singlemode E9/125

Optical Singlemode fibre cable transmission performance parameters

Classification	Optical fibre and cable type	Application	Wavelenght [nm]	Maximum attenuation [dB/km]	Minimum overfilled modal bandwith-lenght product OFL [MHz*km]	Minimum effective modal-bandwith-length product EMB [MHz * km]
TIA 492CAAA OS1	Singlemode Indoor-Outdoor	Backbone	1310 1550	0.5 0.5	n/a n/a	n/a n/a
TIA 492CAAB OS2	Singlemode Indoor-Outdoor	Backbone	1310 1550	0.5 0.5	n/a n/a	n/a n/a
TIA 492CAAA OS1	Singlemode Inside plant	Backbone Riser	1310 1550	1.0 1.0	n/a n/a	n/a n/a
TIA 492CAAB OS2	Singlemode Inside plant	Backbone Riser	1310 1550	1.0 1.0	n/a n/a	n/a n/a
TIA 492CAAA OS1	Singlemode Outside plant	Backbone	1310 1550	0.5 0.5	n/a n/a	n/a n/a
TIA 492CAAB OS2	Singlemode Outside plant	Backbone	1310 1550	0.5 0.5	n/a n/a	n/a n/a

The fibre designation (OS1 and OS2) corresponds to the designation of ISO/IEC 11801 or EN 50173.
OS2 is commonly referred to as "low water peak" singlemode fibre and is characterized by having a low attenuation coefficient in the vicinity of 1383 nm.

Fibre Optic Overview

Multimode Fibre

Multimode fibres are best suited for premises applications where links are less than 1 kilometer and there are many connectors. The larger core diameter of multimode fibre allows the use of inexpensive light emitting diode (LED) and vertical cavity surface emitting laser (VCSEL) transmitters and low-cost connectors. Multimode fibre uses a graded index profile to minimize modal dispersion. This design maximizes bandwidth while maintaining large cores for simplified system assembly and lower network costs. For multimode fibres, bandwidth can be the major limiting factor in network design. This has led the industry to exploit the higher intrinsic bandwidth of 50/125 μm fibre when developing higher-performance multimode fibre systems.

Coating   Cladding   Core
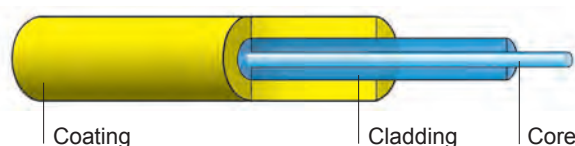
Multimode G50/125 or G62.5/125

Optical Multimode fibre cable transmission performance parameters

Classification	Optical fibre and cable type	Application	Speed	Wavelenght [nm]	Maximum attenuation [dB/km]	Minimum overfilled modal bandwith-lenght product OFL [MHz*km]	Minimum effective modal-bandwith-length product EMB [MHz * km]
TIA 492AAAA OM1	Multimode 62.5/125 μm	Horizontal Link Backbone	≤ 100 Mb/s	850 1300	3.5 1.5	200 500	not specified not specified
TIA 492AAAB OM2	Multimode 50/125 μm	Horizontal Link Backbone	≤ 1 G≥b/s	850 1300	3.5 1.5	500 500	not specified not specified
TIA 492AAAC OM3 850 nm Laser-optimized	Multimode 50/125 μm	Horizontal Link Riser Backbone Data centre	≥ 10 Gb/s	850 1300	3.5 1.5	1500 500	2000 not specified
TIA 492AAAD OM4 850 nm Laser-optimized	Multimode 50/125 μm	Backbone Data centre	≥ 10 Gb/s	850 1300	3.5 1.5	3500 500	4700 not specified

The fibre designation (OM1, OM2, OM3 and OM4) corresponds to the designation of ISO/IEC 11801 or EN 50173.
OM3 and OM4 can be realized only with 50/125 μm fibres.
OFL means Overfilled Launch (LED)
EMB means Effective Modal Bandwith (Laser)

Multimode Fibre Link Lenghts and Data Rates
Although fibre bandwidth is a critical factor in determining link length and data rate, it is not the only one. Transmitter and receiver characteristics are equally as important as fibre bandwidth in determining supportable link lengths at specified data rates.

Fibre Optic Cable

For more information and products please visit www.datwyler.com

Fibre Optic Cable OM2 / OM3 / OS2

optofil® - Indoor Cable / I-DQ(ZN)H
ZKFR (24 Fibres) for indoor use only

- non-metallic, non-armoured, halogen free and a very small OD

optofil®-I ZKFR 24fibres OS2

optofil®-I ZKFR 24fibres OM3

I-DQ(ZN)H 1xm	fibre	Article No.	Article No.	Article No.
description	number	E9/125 G.652.D	G50/125 OM3	G50/125 OM4
optofil® –I ZKFR 1x24	24	on request	on request	on request

optoversal®/ U-DQ(ZN)BH
for indoor and outdoor use

- non metallic, dry interstices
- rodent protected, flame retardant
- according to IEC 60332.1 and IEC 60332.3 C
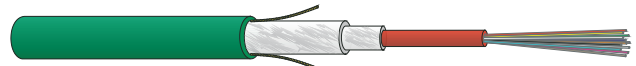
optoversal® ≤ 24 fibres
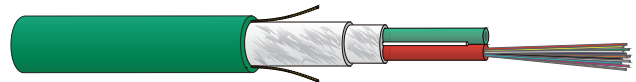
optoversal® ≤ 24 fibres
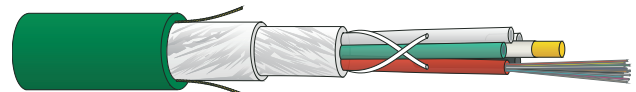
optoversal® 36 - 144 fibres

U-DQ(ZN)BH nxm	fibre	Article No.	Article No.	Article No.
description	number	E9/125 G.652.D	G50/125 OM2	G50/125 OM3
optoversal® 1x4	4	190 203	185 938	185 989
optoversal® 1x6	6	190 204	186 459	190 112
optoversal® 1x8	8	190 205	186 300	185 959
optoversal® 1x12	12	190 077	185 935	186 350
optoversal® 2x12	24	190 071	186 356	186 432
optoversal® 1x24	24	187 354	186 595	191 755
optoversal® 1x12 E9 + 1x12 G50	24	-	190 378	190 137

U-DQ(ZN)BH nxm	fibre	Article No.	Article No.	Article No.
description	number	E9/125 G.652.D	G50/125 OM2	G50/125 OM3
optoversal® 3x12	36	190 207	186 434	on request
optoversal® 4x12	48	190 208	187 291	186 486
optoversal® 5x12	60	190 209	190 618	186 642
optoversal® 6x12	72	190 210	187 344	186 539
optoversal® 8x12	96	186 747	on request	186 540
optoversal® 10x12	120	190 211	on request	186 536
optoversal® 12x12	144	190 212	186 616	191 710

optofil®- Safety Cable
Safety cable for indoor and outdoor use

- functional integrity according to DIN 4102-12 30 Min. (E30)
- non metallic, water resistant, rodent protected,
- flame retardant according to IEC 60332.1 and
  IEC 60332.3 C

optofil® ZGGFR-Safety
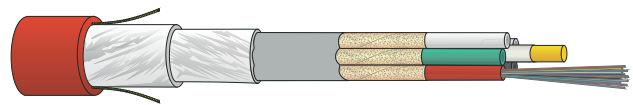
optofil® wbGGFR-Safety

optofil®-ZGGFR-Safety / U-DQ(ZN)BH

U-DQ(ZN)BH 1xm	fibre	Article No.	Article No.	Article No.
description	number	E9/125 G.652.D	G50/125 OM2	G50/125 OM3
optofil® ZGGFR-Safety 1x4	4	187 288	186 363	190 604
optofil® ZGGFR-Safety 1x6	6	on request	186 639	on request
optofil® ZGGFR-Safety 1x8	8	on request	190 621	on request
optofil® ZGGFR-Safety 1x12	12	190 719	187 293	191 796

optofil®-wbGGFR-Safety / U-DQ(ZN)BH

U-DQ(ZN)BH nxm	fibre	Article No.	Article No.	Article No.
description	number	E9/125 G.652.D	G50/125 OM2	G50/125 OM3
optofil® wbGGFR-Safety 2x12	24	190 223	187 294	187 360
optofil® wbGGFR-Safety 3x12	36	190 224	on request	on request
optofil® wbGGFR-Safety 4x12	48	190 225	on request	191 191
optofil® wbGGFR-Safety 5x12	60	190 226	on request	190 605

Fibre Optic Patch Panels

Fibre optic patch panel and component

Article No.	Description	
417 376	Chassis - OV-A adjustable 1U	RAL 9005 without frontplate
417 377	Panel - Front plate 1HE	RAL 9005 for 24 ST
417 374	Panel - Front plate 1HE	RAL 9005 for 24 SCD/LSH/LDC

Adapters

Article No.	FO adapter side 1	FO adapter side 2	Type	Cover	Colour
1414 885	ST	ST	MM	Metal	
1414 886	ST	ST	SM	Metal	
1412 754	SC	SC	MM	Polymer	Beige
1412 752	SC	SC	SM	Polymer	Blue
1414 608	SCD	SCD	MM	Polymer	Beige
1414 890	SCD	SCD	SM	Polymer	Blue
1414 415	LCD	LCD	MM	Polymer	Beige
1414 417	LCD	LCD	SM	Polymer	Blue

Fibre optic patch panel (Complete)

Patch Panel OV-A, 19" 1U

Application:
- Splice Box pre-assembled with adapters and pigtails
- prepared for splicing, incl. splice trays, splice holders
  and splice protection in crimp technology
- with straight cable entry cable gland M20

Construction:
- Cover: metallic cover adjustable, panel with locking device,
  can be extended to OV-AT
- Colour: RAL 7035 (also available in black RAL 9005, see Catalogue)
- Size for: up to 48 fibres
- cable entry point: real left and right
- Size: 19" 1U, depth 310mm

Fibre splice box panel
sample with 24 singlemode SCD adapters
and 48 pigtails

Article No.	Description	
190 975	Splicebox, OV-A, adjustable 1 unit 12 LCD adapter blue polymer housing with ceramic sleeve and 24 LC pigtails 2m E09/125 µm	OS2
190 988	Splicebox, OV-A, adjustable 1 unit 12 LCD adapter beiges polymer housing with PB sleeve and 24 LC pigtails 2m G50/125 µm	OM2
190 885	Splicebox, OV-A, adjustable 1 unit 12 LCD adapter turqouise polymer housing with PB sleeve and 24 LC pigtails 2m G50/125 µm	OM3
191 761	Splicebox, OV-A, adjustable 1 unit 24 LCD adapter blue polymer housing with ceramic sleeve and 48 LC pigtails 2m E09/125 µm	OS2
191 762	Splicebox, OV-A, adjustable 1 unit 24 LCD adapter beiges polymer housing with PB sleeve and 48 LC pigtails 2m G50/125 µm	OM2
191 763	Splicebox, OV-A, adjustable 1 unit 24 LCD adapter turqouise polymer housing with PB sleeve and 48 LC pigtails 2m G50/125 µm	OM3
190 889	Splicebox, OV-A, adjustable 1 unit 12 SCD adapter blue polymer housing with ceramic sleeve and 24 SC pigtails 2m E09/125 µm	OS2
190 955	Splicebox, OV-A, adjustable 1 unit 12 SCD adapter beiges polymer housing with PB sleeve and 24 SC pigtails 2m G50/125 µm	OM2
190 883	Splicebox, OV-A, adjustable 1 unit 12 SCD adapter turqouise polymer housing with PB sleeve and 24 SC pigtails 2m G50/125 µm	OM3
190 973	Splicebox, OV-A, adjustable 1 unit 24 SCD adapter blue polymer housing with ceramic sleeve and 48 SC pigtails 2m E09/125 µm	OS2
190 972	Splicebox, OV-A, adjustable 1 unit 24 SCD adapter beiges polymer housing with PB sleeve and 48 SC pigtails 2m G50/125 µm	OM2
190 991	Splicebox, OV-A, adjustable 1 unit 24 SCD adapter turqouise polymer housing with PB sleeve and 48 SC pigtails 2m G50/125 µm	OM3

Fibre Optic Cords & Pigtails

For more information and products please visit www.datwyler.com

Fibre optic patch cords

Datwyler offer a broad range of fibre optic connectors for individual customer needs

FO-patch- and adapter cable LCD-LCD

Connector type		Fibre type	Length in m									
Side A	Side B		1	2	3	4	5	6	7	8	9	10
LCD	LCD	E09/OS2	423 311	423 312	423 313	423 314	423 315	423 316	423 317	423 318	423 319	423 320
LCD	LCD	G50/OM3	423 331	423 332	423 333	423 334	423 335	423 336	423 337	423 338	423 339	423 340
LCD	LSH	E09/OS2	423 411	423 412	423 413	423 414	423 415	423 416	423 417	423 418	423 419	423 420
LCD	LSH	G50/OM3	423 431	423 432	423 433	423 434	423 435	423 436	423 437	423 438	423 439	423 440
LSH	LSH	E09/OS2	424 411	424 412	424 413	424 414	424 415	424 416	424 417	424 418	424 419	424 420
LSH	LSH	G50/OM3	424 431	424 432	424 433	424 434	424 435	424 436	424 437	424 438	424 439	424 440
SCD	SCD	E09/OS2	421 111	421 112	421 113	421 114	421 115	421 116	421 117	421 118	421 119	421 120
SCD	SCD	G50/OM3	421 131	421 132	421 133	421 134	421 135	421 136	421 137	421 138	421 139	421 140
SCD	LCD	E09/OS2	421 311	421 312	421 313	421 314	421 315	421 316	421 317	421 318	421 319	421 320
SCD	LCD	G50/OM3	421 331	421 332	421 333	421 334	421 335	421 336	421 337	421 338	421 339	421 340

Fibre optic pigtails

Fibre pigtails in 12 colours (according IEC 60304)
Parameters of all FO terminations see table below

Connector type	Fibre type	Fibre pigtail 2m	12er Set FP 2 m
SC	E09/OS2	421 121	421 122
SC	G50/OM3	421 141	421 142
SC	G50/OM2	421 161	421 162
SC	G62,5/OM1	421 181	421 182
ST	E09/OS2	422 221	422 222
ST	G50/OM3	422 241	422 242
ST	G50/OM2	422 261	422 262
ST	G62,5/OM1	422 281	422 282
LC	E09/OS2	423 321	423 322
LC	G50/OM3	423 341	423 342
LC	G50/OM2	423 361	423 362
LC	G62,5/OM1	423 381	423 382

Connectors	IL [dB] typical	IL [dB] maximum	RL [dB] typical	RL [dB] at least
MM	0.2	0.5	25	20
SM	0.2	0.5	40	35
SM/APC	0.2	0.5	65	60

Pre-terminated Copper Trunk Solutions

For more information and products please visit www.datwyler.com

Factory terminated copper data cables

### for easy installation in cable ducts or in raised floors of server rooms or Data Centres

Concept:
Data Centres must be designed to accommodate both current and future requirements:

Flexibilty – scalability – Safeness – Room management

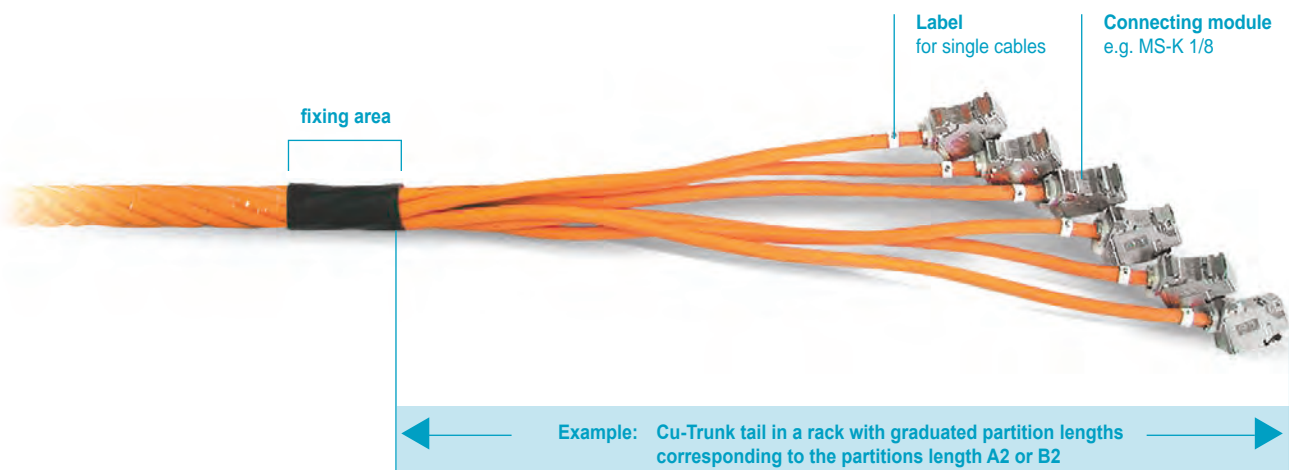The main reasons are primarily:
moves – adds – changes (MAC)

Bespoke copper trunk cables consist of a quantity of screened single cables contained within an over sheath. They are for use in server rooms and data centres. They are a fast and safe cabling solution (because they are pre-tested) for connecting the Server, Router or Storage systems. The Cu-Trunks are terminated to the local conditions to the customer request and connected with the connecting modules or plugs in the desired category.
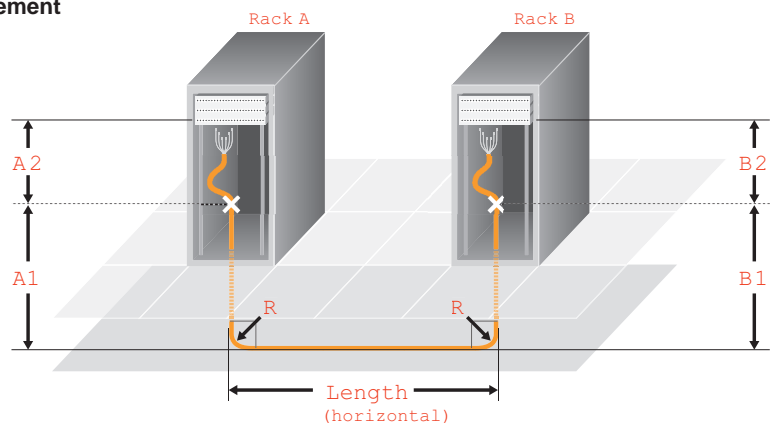
The following criteria should be correctly and accurately determined prior to order:

Length horizontal	Horizontal distance between the racks
A1	Vertical distance up to the fixing point inside the data rack A
B1	Vertical distance up to the fixing point inside the data rack B
A2 (customer specified)	Terminated cable tail in rack A with the connected modules
B2 (customer specified)	Terminated cable tail in rack B with the connected modules
R	Tolerated bending radius for the Cu-Trunk in case of insertion into the rack from bottom or top

The total length of a Cu-Trunk is a summary of the partition length: **Length** horizontal **+ (A1+A2) + (B1+B2)**

Label
for single cables

Connecting module
e.g. MS-K 1/8

fixing area

Example: **Cu-Trunk tail in a rack with graduated partition lengths corresponding to the partitions length A2 or B2**

Individual Copper Trunk terminations

Application
- different lengths
- different combination of cable and module
- customized imprint
- 100% factory pre-testing

Cables

1 part	data cable	7120	4P	Cat.7$_A$	screened	suitable for	10GBase-T
6-parts	data cable	7002	6x4P	Cat.7	screened	suitable for	10GBase-T
6-parts	flex cable	7702 flex	4P	Cat.7	screened	suitable for	10GBase-T
12-parts	flex cable	7702 flex	4P	Cat.7	screened	suitable for	10GBase-T
	flex cables	in different data cable jacket colours					

KS-T 1/8 Cat.6/E$_A$ shielded

PS-GG45 7$_A$ 4P shielded

PS–TERA 7$_A$ 4P shielded

RJ45 Cat.6/E$_A$ shielded (for flex cables)

Connecting Modules

RJ45 Module KS-T 1/8 Cat.6/E$_A$		shielded		suitable for	10GBase-T	for flex & solid cables
PS-GG45 4P	Cat.7$_A$	shielded		suitable for	10GBase-T	for flex & solid cables
PS–TERA 4P	Cat.7$_A$	shielded		suitable for	10GBase-T	for solid cables
RJ45-Plug	Cat.6/E$_A$	shielded (for flex cables)		suitable for	10GBase-T	for flex cables

Applicable standards
Depending upon the specified components, the resulting channel class will be based upon the following standards:
ISO/IEC 11801:2002 / Amd.2:2010, EN 50173:1 and 5 : 2007 , TIA/EIA 568-B.2-10: 2008

Project planning for a Copper-Trunk

✔ **For what bandwidth do you need the copper trunks? (Today and in the future)**
10GBase-T (500MHz) or 1Gbase-T (100Mhz) or…

✔ **Choose the corresponding type of data cable!**
Select a cable type according to the required performance class and the number of needed single cables.

✔ **Choose the compatible modules or plugs according to the intended use/ application.**
For class F$_A$, F, E$_A$, E or D

✔ **Choose the correct patch panel for the chosen module.**

✔ **Calculate the lengths of the trunks**
Where do you want to install them? Cable distribution over the top of the data rack or from a raised floor under the rack. Please note the weight, the diameter and the tolerated bending radius of the trunks!

✔ **Determine the cable routing inside the data rack:**   - laterally from the left
      - laterally from the right
      - from the central back of the rack

✔ **The single cables can be cut to length individually according to the mounting of the trunks in the rack.**
Generally single cables are cut to an equal length with enough redundant length for the most far away connection point. The redundant length can be stored in the tray behind the 19''/ 1U management panel.

✔ **Customized labeling of the trunks is possible by request.**

✔ **Lead times for bespoke pre-terminated cables will be longer.**

Pre-terminated Fibre Optic Trunk Solutions

For more information and products please visit www.datwyler.com

Factory terminated fibre optic data cables

for easy installation of communication connections in the primary spaces: Backbone (Campus), Data Centre and Riser.

Application

Please ensure that the measured length of the trunk cable includes the additional length of the single cables at each end. This will therefore mean that the length of the trunk cable is the total distance from A end panel to B end panel, not just the distance between racks. The lengths of each single fibre element can be found within the instruction manual.

Caution:

Please look for your order that the length of the trunk cable is including the length of the single fiber cables.
Means the total length of the trunk is the length of the cable between the split plus on both side the single fibre length.
The length of the single fibre elements you can find in the instruction manual.

Fibre divider (≤ 48 fibres):

Fibre divider (≤ 144 fibres):
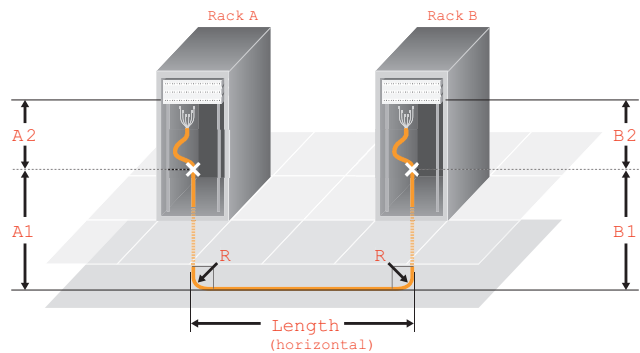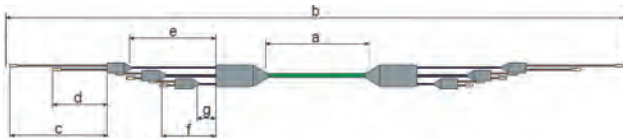
a: cable length between the divider	for high fibre divider (≤144 fibres):	For all fibre divider: **a** = **A1 + Length + B1**
b: cable length which has to be ordered	e: 1150 mm	Fibre divider (≤ 48 fibres): **c** = **A2**
c: longest fibre	f: 1000 mm	Fibre divider (≤ 144 fibres): **c + e** = **A2**
d: shortest fibre	g: 850 mm (dropped by double)	**b** = **a + c (+ e)**

Pre-terminated fibre optic trunk cables

Features

- optoversal® or other loose tube Fibre Optic Cables
  from the optofil® product range
- Connector assembly with a coupler (screwable)
- For all current fibre optic connecting systems
- The pre-terminated cable is assembled with a protective
  over sheath ready for direct installation
- Enabling assemblies of up to 144 fibres
- For assemblies with over 48 fibres, the distribution
  head will be cascaded
- Max. length of the free cable is 2m (stepped)
- Assembly includes attenuation test report
- Connectors are on each cable end
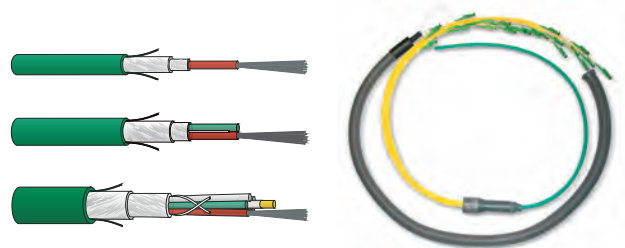
e. g. optoversal® cable   FO-Trunk termination

Breakout assembly (Fibre Optic cabling should be ordered separately)

connector type	fibre type Multimode Article No.	fibre type Singlemode Article no.
12 x SC	1406 794	1407 035
24 x SC	1408 597	1406 242
48 x SC	1408 725	1406 768
72 x SC	on request	on request
96 x SC	1415 374	on request
144 x SC	on request	on request
12 x LC	417 131	415 015
24 x LC	415 020	on request
48 x LC	415 021	on request
72 x LC	on request	on request
96 x LC	on request	on request
144 x LC	on request	on request
12 x LSH	on request	415 011
24 x LSH	on request	415 012
48 x LSH	on request	415 013
72 x LSH	on request	on request
96 x LSH	on request	on request
144 x LSH	on request	on request

connector type	fibre type Multimode Article No.	fibre type Singlemode Article No.
12 x LSH/APC	on request	415 007
24 x LSH/APC	on request	415 008
48 x LSH/APC	on request	415 009
72 x LSH/APC	on request	on request
96 x LSH/APC	on request	on request
144 x LSH/APC	on request	on request
12 x LCD	1412 961	1415 393
24 x LCD	on request	on request
48 x LCD	on request	on request
72 x LCD	on request	on request
96 x LCD	on request	on request
144 x LCD	on request	on request

LC-APC connector for singlemode are also available on request !

Breakout box

Application
- adjustable fibre optic patch panel for applications with Fibre Optic Trunk cable
- pre-assembled with adapters

Construction
- Cover: metallic cover, adjustable,
  panel with locking device, can be extended to OV-AT
- Colour: RAL 7035
- Imprint: number as a screen print
- Size for: up to 48 fibres
- Strain relief: with cable tie and screwed cable gland
- Cable entry point: left and right
- Size: 19" 1U, depth 310mm
Couplers
- ST, SCD, LCD, LSH

Fibre optic patch panel 19" 1U adjustable sample with 6 SC Duplex adapter

Article No.	Description	
191 765	Breakoutbox, OV-A, adjustable 1U	6 LCD SM adapter blue polymer housing with ceramic sleeve
191 766	Breakoutbox, OV-A, adjustable 1U	6 LCD MM adapter turqouise polymer housing with PB sleeve
191 767	Breakoutbox, OV-A, adjustable 1U	12 LCD SM adapter blue polymer housing with ceramic sleeve
191 768	Breakoutbox, OV-A, adjustable 1U	12 LCD MM adapter turqouise polymer housing with PB sleeve
191 769	Breakoutbox, OV-A, adjustable 1U	24 LCD SM adapter blue polymer housing with ceramic sleeve
191 770	Breakoutbox, OV-A, adjustable 1U	24 LCD MM adapter turqouise polymer housing with PB sleeve
191 771	Breakoutbox, OV-A, adjustable 1U	6 LSH/APC SM adapter green polymer housing with ceramic sleeve
191 772	Breakoutbox, OV-A, adjustable 1U	6 LSH MM adapter black polymer housing with ceramic sleeve
190 878	Breakoutbox, OV-A, adjustable 1U	12 LSH/APC SM adapter green polymer housing with ceramic sleeve
190 874	Breakoutbox, OV-A, adjustable 1U	12 LSH MM adapter black polymer housing with ceramic sleeve
190 879	Breakoutbox, OV-A, adjustable 1U	24 LSH/APC SM adapter green polymer housing with ceramic sleeve
190 875	Breakoutbox, OV-A, adjustable 1U	24 LSH MM adapter black polymer housing with ceramic sleeve
190 876	Breakoutbox, OV-A, adjustable 1U	6 SCD SM adapter blue polymer housing with ceramic sleeve
191 773	Breakoutbox, OV-A, adjustable 1U	6 SCD MM adapter turqouise polymer housing with PB sleeve
190 877	Breakoutbox, OV-A, adjustable 1U	12 SCD SM adapter blue polymer housing with ceramic sleeve
191 774	Breakoutbox, OV-A, adjustable 1U	12 SCD MM adapter turqouise polymer housing with PB sleeve
191 775	Breakoutbox, OV-A, adjustable 1U	24 SCD SM adapter blue polymer housing with ceramic sleeve
191 777	Breakoutbox, OV-A, adjustable 1U	24 SCD MMadapter turqouise polymer housing with PB sleeve

MHD – Modular High Density Solutions

MHD – Modular High Density system
for use in data centres

As data centres are constantly evolving, all cabling systems must accommodate moves, adds, changes and upgrades. Often these variations will need to be carried out during operational periods, and therefore need to be completed within the shortest possible time frame. Where ever possible, clients will prefer to use their in-house technicians to carry out these changes, rather than call in their specialist contractor on each occasion. To meet these demands, a modular cabling solution was developed, enabling both pre-terminated copper and fibre optic connections to be contained within a modular high density patching system. Within this system, either 48 duplex fibre optic or copper ports can be terminated on to a single rack unit. These single rack units can be used for either copper or fibre terminations, or both within the same 1U assembly.

MHD-Housing 19"/1U
for max. 2x4 Cartridges 0,5 U

MHD-Housing
for cartridges

Configurations	MHD distributor housing 19"/1U for incorporation of 8 MHD cartridges 0.5U and MHD blind front plate 0.5 U
Rack	solid metal
Front plate colour	stainless steel or black similar to RAL 9005
Labeling	screen-printed numbers
Space for	up to 8 MHD distributor cartridges, i.e., up to 48 RJ45 ports or 96 fibres, different cartridge types can be mixed
Strain relief	options include screw fastener, cable splitter or cable clip
Cable inlet	via up to four cable inlet plates, straight or diagonal
Dimensions	19", 1U, depth of 24cm w/o diagonal cable inlet installed on outside or breakout fixing

Description	Article No. Stainless steel	Article No. Black
MHD Distributor rack 1 U	470 011	470 012
MHD Blank front plate for 1 U with module supporting element	470 028	470 027
MHD Distributor rack 3 U	on request	on request

Article No.	Accessories for MHD 1U / Description
470 013	MHD Breakout cable inlet/outlet 6 - fold
470 140	MHD Breakout cable inlet/outlet 12 - fold
470 014	MHD Straight cable inlet for PG13.5/PG16, screw fastener
470 015	MHD Diagonal cable inlet for PG13.5/PG16, screw fastener
470 016	MHD Straight cable inlet for cable splitter M20/M25
470 017	MHD Diagonal cable inlet for cable splitter M20/M25
470 018	MHD Blank plate instead of cable inlet

Copper Data Cabling
MHD Copper Trunk with Cartridge (shielded)

- pre-assembled copper trunk cable for all applications up to 10 Gbit/s

MHD – Modular High Density Solutions

Copper Data Cabling

MHD Copper Trunk with Telco Interface (shielded)

MHD Copper Trunk

- pre-assembled copper trunk cable for applications up to 1Gbit/s
  (max. length 60 m)
- zero halogen and screen copper cable (very slim and flexible)
- terminated at each end with Telco jack for the connection of the MHD
  copper distributor cartridges
- A measurement report is included with the copper trunks

MHD Cu-trunks with distributor cartridge

Length /m	Article No. Copper Trunk with Telco Interface (shielded)
5	470 300
10	470 301
15	470 302
20	470 303
25	470 304
30	470 305
35	470 306
40	470 307
45	470 308
50	470 309
55	470 310
60	470 311
other lengths*	470 312

Length of trunk m	Front plate stainless steel for 1U
5	470 400
10	470 401
15	470 402
20	470 403
25	470 404
30	470 405
35	470 406
40	470 407
45	470 408
50	470 409
55	470 410
60	470 411

*other lengths available on request. The specified lengths are measured between the telco sockets.

MHD copper cartridge

- Suitable for all applications up to a speed of 1 Gbit/s
  over a maximum length of 60m
- required the connection of pre-assembled telco trunk cables
- can be installed in the MHD-housing system (0.5U or 3U version)
- you can also achieve very high packing densities such
  as 48 copper ports in a 1U rack

front side, 6xRJ45 shielded   rear side, Telco connector

Configurations	MHD Cu distributor cartridge 0.5U
Chassis	solid metal
Front plate cover	stainless steel or black similar to RAL 9005
Labelling	
Input	50-pin telco connector with screw locking
Output	6 x RJ45 ports shielded
Strain relief	via chassis

Description	Article No. Stainless steel
MHD distributor cartridge 0.5U with 1x Telco on 6x RJ45	470 320

MHD – Modular High Density Solutions

For more information and products please visit www.datwyler.com

Fibre optic cabling – MHD Fibre Optic Trunks

MHD Fibre Optic Trunk with MPO/MTP® connectors (female) on both sides

- pre-assembled fibre-optic cables for applications up to 10 Gbit/s
- the flame retardant and zero-halogen optoversal® is
  pre- assembled with MPO/MTP® -connectors on both sides (female)
- available in fibre variants OM3, OM4 and OS2
- a measurement report is included with the FO-trunks

Optical transmission properties

Fibre Type	IL (dB) typ.	IL (dB) max.	RL (dB) min.
OM3	0.35	0.45	20
OM4	0.17	0.35	25
OS2	0.10	0.45	65

MHD Fibre Optic trunk both side terminated with the MPO/MTP® connector (with 12 fibres)

Name	No. fibres	OM3	OM4	OS2
MPO/MTP® patch cables	12	470 231	470 241	470 211
MPO/MTP® trunk	12	470 232	470 242	470 212
MPO/MTP® trunk	24	470 233	470 243	470 213
MPO/MTP® trunk	48	470 234	470 244	470 214
MPO/MTP® trunk	72	470 235	470 245	470 215
MPO/MTP® trunk	96	470 236	470 246	470 216
MPO/MTP® trunk	144	470 237	on request	470 217

Specify the length of the cable when ordering. The specified lengths are for the longest pre-assembled MPO/MTP® connectors

MHD Fibre Optic cartridge

- suitable for all applications up to a speed of 10 Gbit/s
- required the connection of pre-assembled fibre optic cables
- can be installed in the MHD-housing system
- cartridges are fitted with an MPO/MTP® adapter on the rear panel
  and the fibre optic lines lead to the front plate with six LCD, SCD
  or LSH-C adapters
- the system solution is based on the polarity mode according
  to TIA 586-B1 Method C (pairwise flipped) for duplex signals
- very high packing densities such as 48 FO duplex
  in a 1U distributor rack
- all cartridges are 100% tested in the manufacturing

front side: e.g. LCD adapter
back side: MPO/MTP® adapter (male)

Configurations	MHD FO distributor cartridge 0.5U
Chassis	solid metal
Front plate cover	stainless steel or black similar to RAL 9005
Labelling	
Input	1 x MPO/MTP®
Output	6 fibre optic duplex ports (LCD, LSH-C, SCD)
Strain relief	via chassis
Dimensions	130x107x20.5 mm

Optical transmission properties

Cartridge Type	Fibre Type	IL (dB) min.	IL (dB) max.	RL (dB) min.
1xMTP - 6xLCD	OM3	0.35	0.45	20
1xMTP - 6xLCD	OM4	0.20	0.35	25
1xMTP/APC - 6xLCD	OS2	0.25	0.50	55
1xMTP/APC - 6xLCD/APC	OS2	0.30	0.50	65

MHD FO distributor cartridge 0,5 U with:

Name	OM3	OM4	OS2	OS2 APC
MPO/MTP® on 6 x LCD	470 153	470 154	470 156	470 157
MPO/MTP® on 6 x LSH-C	470 104	on request	470 107	on request
MPO/MTP® on 6 x SCD	on request	on request	on request	

Other configurations such as LC APC are available on request.

Cabinets / Racks

Datwyler offer a wide range of racks and cabinets. In order to find the ideal solution for your installations, please contact us. Our local sales office will be pleased to assist you. Below are a selection from our range

Network

Right frame Four adjustable panel mounting verticles
Vented framed glass front door
Vented framed steel rear door
Two plain steel side panels
Ventilated top cover with multiple unique cable apertures protected with cable glands
Top cover equiped to accept 'Quick Change' room mounted fan tray
Open base with maximum cable aperture
Set of four transportation castors.

Note: All doors and side panels are lockable and quick release.

Doors open 270 degrees as stand alone and at end of bay and 180 degreed when bayed.

STANDARD FINISH: Black RAL 9005

Description	Height	Width	Depth	Colour
	mm	mm	mm	
Network Rack 19'', 42U	2100	600	600	RAL 9005
Network Rack 19'', 42U	2100	600	800	RAL 9005
Network Rack 19'', 42U	2100	800	600	RAL 9005
Network Rack 19'', 42U	2100	800	800	RAL 9005

All available in 25u, 33u, 45u, 47u and 52u

Server

ServerSmart Cab Specification:
Rigid frame Four adjustable panel mounting verticles
CURVED MaxiVent perforated front and rear doors
Two plain steel side panels
CURVED front and rear roof sections
Ventilated top cover with multiple unique cable apertures protected with cable glands
Top cover equipped to accept 'Quick Change'
Roof mounted fan tray
FOUR pairs of heavy duty depth members
Open base with maximum cable aperture
Set of four transportation castors.

Note: All doors and side panels are lockable and quick release.

Doors open 270 degrees as stand alone and at end of bay and 180 degreed when bayed.

STANDARD FINISH: Black RAL 9005

Description	Height	Width	Depth	Colour
	mm	mm	mm	
Server Rack 19'', 42U	2100	600	1000	RAL 9005
Server Rack 19'', 42U	2100	600	1200	RAL 9005

Both available in 25u, 33u, 45u, 47u and 52u

Cabinets / Racks

Datwyler offer a wide range of racks and cabinets. In order to find the ideal solution for your installations, please contact us. Our local sales office will be pleased to assist you. Below are a selection from our range

Wall Mounted

Wall Chassis 19"

• Two fixed 19-inch mounting posts

• Two fixed side panels

• Choice of acrylic glass, steel or maxi-vent mesh front door - supplied with a cylinder lock

• Available in Assembled or Flat Packed Versions

Description	Height	Width	Depth	Colour
	mm	mm	mm	
Wall chassis 19", 9U	475	600	400	RAL 7035
Wall chassis 19", 9U	475	600	600	RAL 7035

Also available in 12u, 15u, 18u and 21u

High Density Patching Frames

• 100% patch panel availability

• Cable management fingers and each 'u' height on both sides on patching field

• Additional quick fit cable rings to assist with cable support, routing and containment

• Can be used as a single patching frame or quickly bayed in multiples

• Upper and lower cable troughs for cable routing and separation

• No sharp edges or tight bends so cables are protected

Description	Height	Width	Depth	Colour
	mm	mm	mm	
HDF Rack 19",42U	2100	800	600	RAL 9005
HDF Rack 19",42U	2100	800	450	RAL 9005

Also available in 45u and 47u

Floor Box Inserts

Floor Box Inserts

Applications:
Floor boxes are floor mounted outlets that can be configured in a variety of ways.

As a rule the following unit inserts will be used:
Rectangularly = GES 9 resp. GES 6
Round = GESR 9 resp. GESR 6

Capacity of the adapter plates:
GES 6 / GESR 6 = max. 3 floor box inserts 2-ports
GES 9 / GESR 9 = max. 3 floor box inserts 3-ports

GES 6 / GES 9   **GESR 6 / GESR 9**

Advantages:
• Floor Box Inserts can be installed directly (without a device cup)
  in the corresponding floor box (third party manufacturer)
• floor voids are used to maximise cabling capacity to each floor
• optimal assembly ratios for copper and fibre cables
• space for 3 modules in each insert
• corresponding adapter plates for the different module options
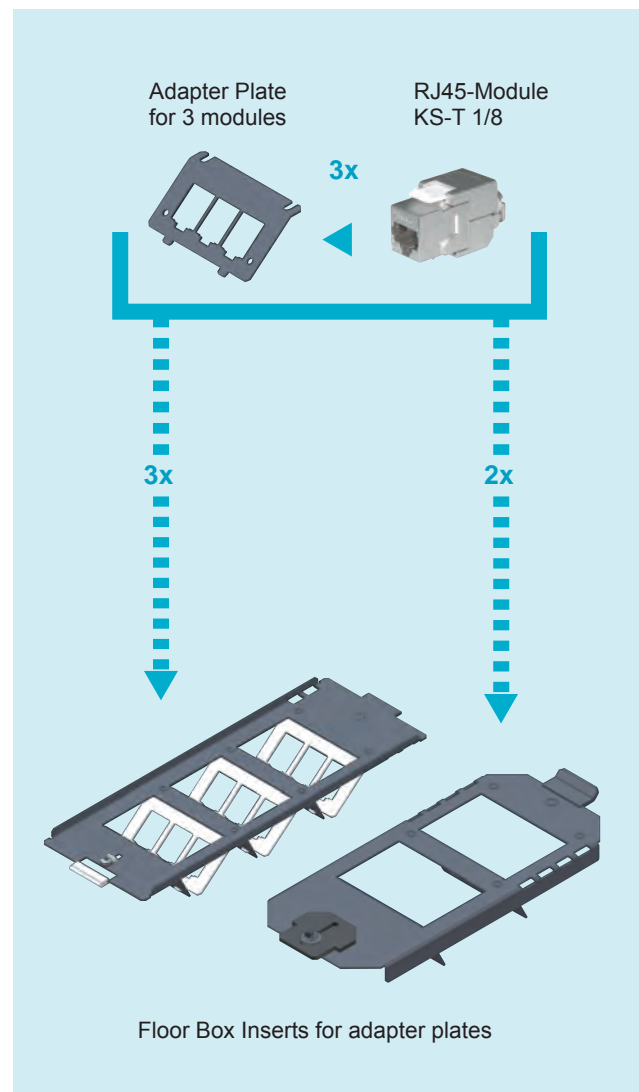 are available

Floor Box Inserts for adapter plates:

Examples:

Adapter Plate   RJ45-Module
for 3 modules   KS-T 1/8

3x

3x   **2x**

Floor Box Inserts for adapter plates

Fig.	Article No.	Description	PU
	417 410	Floor Box Insert for Ackermann System 55 GESR 9 / for integration of 3 adapter plates	1 Piece
	417 411	Adapter plate for Floor Box Insert System 55 / Version for 2 Module Types: PS-TERA (Insert with Bracket 417 440)	1 Piece
	417 412	Adapter plate for Floor Box Insert System 55 / Version for 3 Module Types: PS-TERA (Insert with Bracket 417 440)	1 Piece
	417 421	Floor Box Insert for Ackermann GES 9 / for integration of 3 Adapter plates	1 Piece
	417 420	Floor Box Insert for Ackermann GES 6 / for integration of 2 Adapter plates	1 Piece
	417 422	Floor Box Insert for OBO-Bettermann GEE 9-12 / for integration of 3 Adapter plates	1 Piece
	417 423	Floor Box Insert for Elektraplan GB 3 / for integration of 3 Adapter plates	1 Piece
	417 424	Floor Box Insert for Van-Geel IK-1 / for integration of 3 Adapter plates	1 Piece

GOP - Grid Outlet Position Boxes

2 way, 3 way, 4 way, 6 way and 8 way
RAL 9005 colour

For use beneath floors or can be attached to desks

All boxes are finished in powder coating

All boxes come complete with cable tie fixing points and keyhole slots

Size: depth 55mm width 60mm

Available for 200mm and 25mm KOPEX

Flexible Conduit

20mm and 25mm x 3m length Polypropylene Complete with Glands and Nuts fitted to each end

Brackets

'L' **Fixings Bracket**
20mm and 25mm

Wireless Solution

The future-oriented Xirrus Arrays deliver outstanding coverage and bandwith;
the optimal prerequisites for the professonal deployment in offices, production buildings,
conference halls, schools, hospitals and hotels.

Wi-Fi Arrays

The Xirrus Wi-Fi Array delivers 2x more range,
4x more coverage, 8x more bandwidth, and
14x more throughput per cable drop – using
75% fewer devices, cables and switch ports
with the fraction of the installation time. Each
array serves up to 1000 simultaneous users,
covering an area of 11500 square meters.

Includes:
- 802.11a/b/g+n integrated Access Points
- Wi-Fi controller
- Threat sensor
- Spectrum analyzer
- Firewall
- Power over Ethernet injector

XN16	XN12	XN8	XN4

Technical Specifications	Model XN16	Model XN12	Model XN8	Model XN4
Integrated 802.11a/b/g+n Access Points	4	4	4	4
Integrated 802.11a/n Access Points	12	8	4	0
Total number of Access Points	16	12	8	4
Total Integrated Antennas	48	36	24	12
Uplink Ethernet Ports	2	2	2	1
Maximum Wi-Fi Bandwidth	4.8 Gbps	3.6 Gbps	2.4 Gbps	1.2 Gbps
Integrated Wi-Fi Threat Sensor	yes	yes	yes	yes
Integrated Spectrum Analyzer	yes	yes	yes	yes
Maximum Associated Users / Access Point	64	64	64	64
Maximum Associated Users / Array	1024	768	512	256

Wi-Fi Array Accessories

Overview
- Broad selection of enclosures to fit a variety of mounting needs
- Specialized enclosures for outdoor and harsh manufacturing environments
- Secure the Xirrus Wi-Fi Array from theft or damage

- Allow Arrays to be easily mounted in almost any environment
- Protect Arrays from harsh environments
- Prevents damage from water and dust

XE-2020 indoor   **XE-4000 Outdoor**

Management System

Overview
- Central management of the entire Wi-Fi Array network
- Continual monitoring of Wi-Fi network status and performance
- Control and maintain configurations across all Arrays

Value delivered
- Track and analyze Wi-Fi network usage and growth over time
- Fast and simple roll out of Wi-Fi network configuration changes
- Automatic alerting of network issues with drill down troubleshooting

Blown Fibre

Datwyler can also offer a 'Blown Fibre Solution' in partnership with Prysmian.

Prysmian is a global market leader in telecommunications, supplying a major part of the world's optical cable needs. With a strong heritage in highly advanced R&D, Prysmian is at the leading edge of telecommunications technological development.

Our solutions are designed, overall and in detail, to fully meet the demands of the future. They are adapted to meet customer's needs and ensure a network infrastructure that will support future applications for a long time to come.

The Sirocco® Blown Fibre System (from Prysmian) provides a simple solution to manage evolving network demands without the need for high initial capital expenditure or extensive network planning.

Sirocco® enables optical networks to adapt to changing business requirements. Sirocco allows optical fibres to be deployed on demand from one point of a network to another (internal or external) using compressed air to blow optical fibre into pre-installed tubes. Building your network using Sirocco systems could realise the following benefits:

Increase network design flexibility
- Service provision on a just-in-time basis (Network on Demand)
- Existing fibre links can be easily re-routed to new users
- Latest and emerging fibre technologies (MM OM3 SM) can be deployed
- Superior damage recovery performance over conventional systems

Reduce initial expenditure/control on-going expenditure
- Capital expenditure costs can be deferred
- Splice and breakout expenses can be minimised
- Deployment of fibres is related to actual requirement
- Elimination of unlit fibre

Speed of customer connections
- Equivalent performance for 1st connections, significantly reduced timescales and costs for subsequent connections
- Existing tube routes can be interrupted at any location – allowing rapid network upgrades

The flexibility offered by blown fibre solutions can substantially minimise today's network build costs. Given the uncertainty of the future trends in technology, demand growth, people movement and financial confidence, Sirocco® can provide a flexible, low total life cost and 'peace of mind' solution.

The Sirocco® 'blown fibre' solution can be used in conjunction with Datwyler Optofil® fibre optic patch panels and components. Datwyler provide a 20 year warranty to cover the full system. Prymsian offer a product warranty for the Sirocco® blown fibre cable and components. Sirocco® cable can be supplied direct from Prysmian or purchased from Datwyler as part of the complete package.

Intelligent Infrastructure

Discovery

Datwyler understand the importance of Intelligent Infrastructure Management and can therefore supply a complete IST Device Verification solution in partnership with Nico.

Nico Discovery is an easy, secure and inexpensive way of finding, cataloguing and tracking live IP devices on a network.

Nico Discovery is based on a robust, secure Linux platform.

It uses a unique combination of ping, SNMP, DNS and ARP resolution to find, classify and even physically locate every IP device. Allowing easy discovery, verification, secure management and planning of an organisation's IST network assets.

Discovery is the core product in the Nico suite combined with Asset it provides real time accountability and depreciation. Combined with Connect it provides moves, changes and cable management.

Discovery **Asset** provides unique real time accountability and depreciation for all IST assets within a network.

A supplementary module to the successful Nico Discovery programme, Asset represents a breakthrough in providing an inexpensive, simple method of creating an accurate, up-to-date inventory and monitoring of all devices on a network. Combined further with the Discovery Connect module, the system can also provide moves, changes and cable management.

Discovery **Connect** provides a unique cable management facility, providing end to end visibility of your entire cable infrastructure. A supplementary module to the successful Nico Discovery programme, Connect represents a step forward in providing an inexpensive, simple method of verifying and managing fixed cabling and subsequent moves and changes within a network. Combined further with the Discovery **Asset** module, the system can also provide real time monitoring of IST assets.

As a modular addition to Discovery, Connect is based on a robust, secure Linux platform. Discovery Connect provides your personnel moves and changes with a complete spreadsheet detailing where their device is located the port it is connected to and the switch port, allowing redundant cables to be disconnected. Once the device is relocated, Discovery checks and automatically reconnects the new cabling making complex move a thing of the past.

Key Benefits Summary

- The system provides Real time visibility and control.
- It starts to build up your environmental management.
- It can be used for Capacity management.
- It manages monitors and controls your moves and changes.
- It provides you with a consolidated management database.

The main benefit of Nico Discovery is that it is quick and easy to install and configure without having to be a network guru.

Cabling Solutions

Intelligent Infrastructure

RiT

Datwyler can supply a complete PatchView™ intelligent infrastructure management (IIM) solution in partnership with RiT. Designed for both data centres and workspace facilities, PatchView™ has been the IT industry's trusted and most widely-deployed system for over two decades.

PatchView™ takes the guesswork and legwork out of managing any organization's network infrastructure ensuring real-time, location-based control over infrastructure and networked devices. Its use simplifies site planning and daily provisioning activities while bringing a new efficiency to maintenance and security activities.

In addition, the system automatically maintains an up-to-date inventory of all assets – whether located across a campus or an ocean – thereby providing comprehensive visibility into data centre and workspace facilities and equipment utilization.

To maximize control over the IT environment, PatchView provides comprehensive, fully-accurate documentation of all network and infrastructure components, advanced IP devices detection and alert capabilities, all in a user-friendly package.

Components: The PatchView IIM solution consists of SMART cabling components, PVMax™ intelligent hardware and sophisticated PatchView for the Enterprise™ (PV4E) software applications.

As part of its vision of an end-to-end managed provisioning process, RiT has developed a fully-integrated Automated Provisioning Tool™ significantly reducing time spent on planning and implementing tasks and minimizing human error. As an open-platform system, PatchView integrates seamlessly with the full range of help desk, ticket management, network management, asset management and other management and back office applications. PatchView's capabilities can be utilized and implemented by any external application or system in the organization's network using RiT's Software Development Kit (SDK) for integrations.

PatchView's intelligence frees you to focus on what needs to be done, letting the system determine the "how" to ensure the optimal infrastructure/ network configuration.

Global market competence

The life blood of a modern purpose-built building is the functionality and reliability of the system solutions for communications, building automation, energy supply and safety. This is true of any such construction, irrespective of whether it is an office block, sports stadium, television studio or data centres.

It's great when everything works smoothly. And not only today, but tomorrow as well - when requirements have long since altered and new technologies have replaced old ones

Choose the right system partner right from the start. Choose Datwyler, a solid, reliable company about to celebrate its 100th year of operation. With the backing of a financially powerful group, the Datwyler Cabling Solutions division, originally a Swiss cable manufacturer now operating on a global stage as a successful supplier of total solutions for the electrical and communications infrastructure of buildings and FTTx networks.

We lead the way in innovations for applications such as information and communications technology, energy supply and safety, building automation and lifts. Our systems are standards-compliant, stable and constitute a secure investment on your part. This is all thanks to the years of experience and proven expertise of our engineers and technicians, offering you an incomparable price/performance ratio. Datwyler is a one-stop source of customised solutions for all your specific applications – with all the necessary test certificates, authorisations and long-term warranties as a matter of course.

Our workforce prides itself on delivering a full package of services for all the products and solutions supplied by the company. You can rely on our expert support for all aspects of supply – beginning with planning, consultancy, through pre-assembly, logistics, installation and ending with system maintenance. We refer to this as our Turnkey Solution.

Global Market Competence

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