

Introduction to Multimedia Solutions

Multimedia Solutions, APAC

Prysmian
Group

Mar, 2017

Prysmian
Group

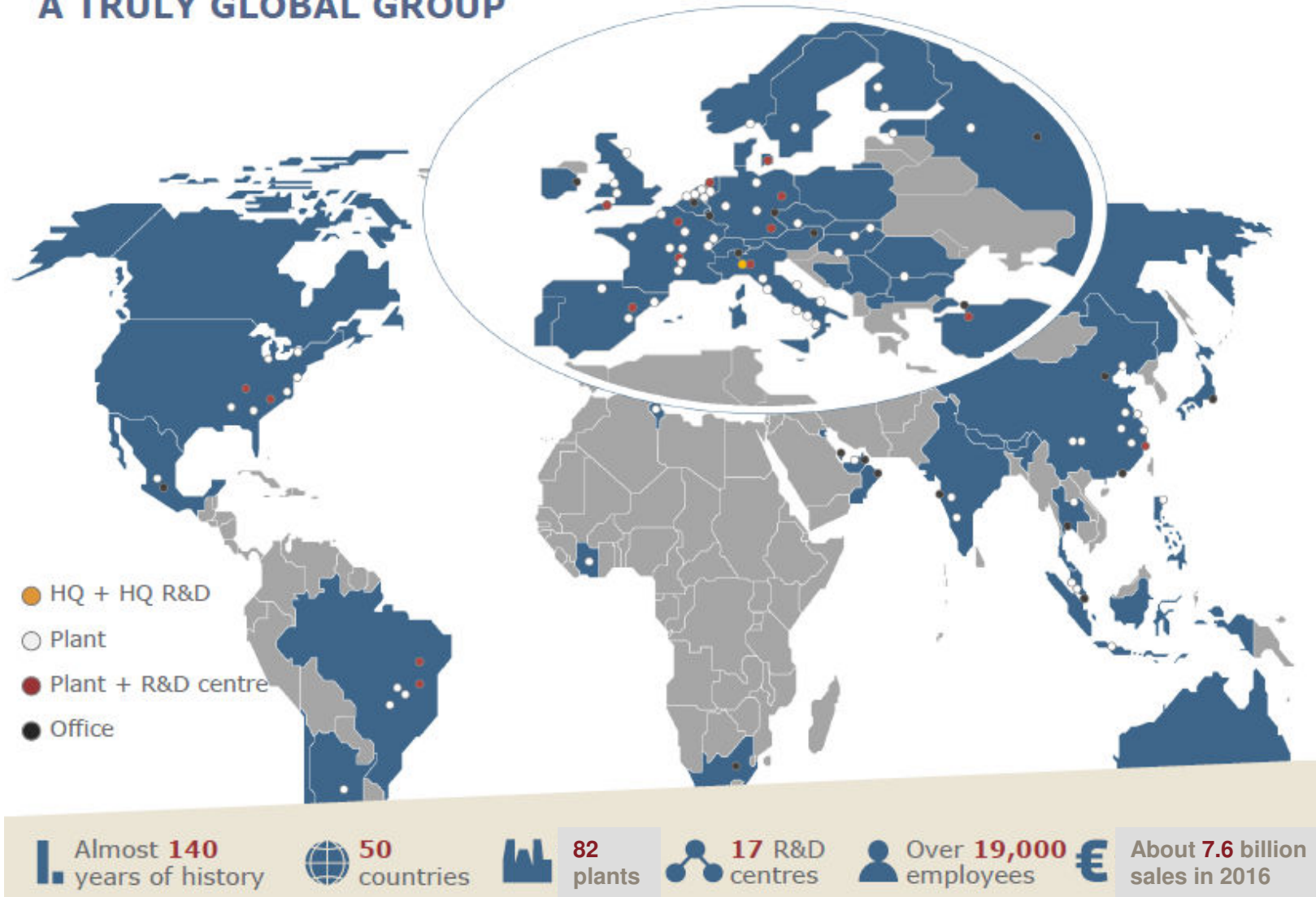
 PRYSMIAN

 Draka

Our Business Overall

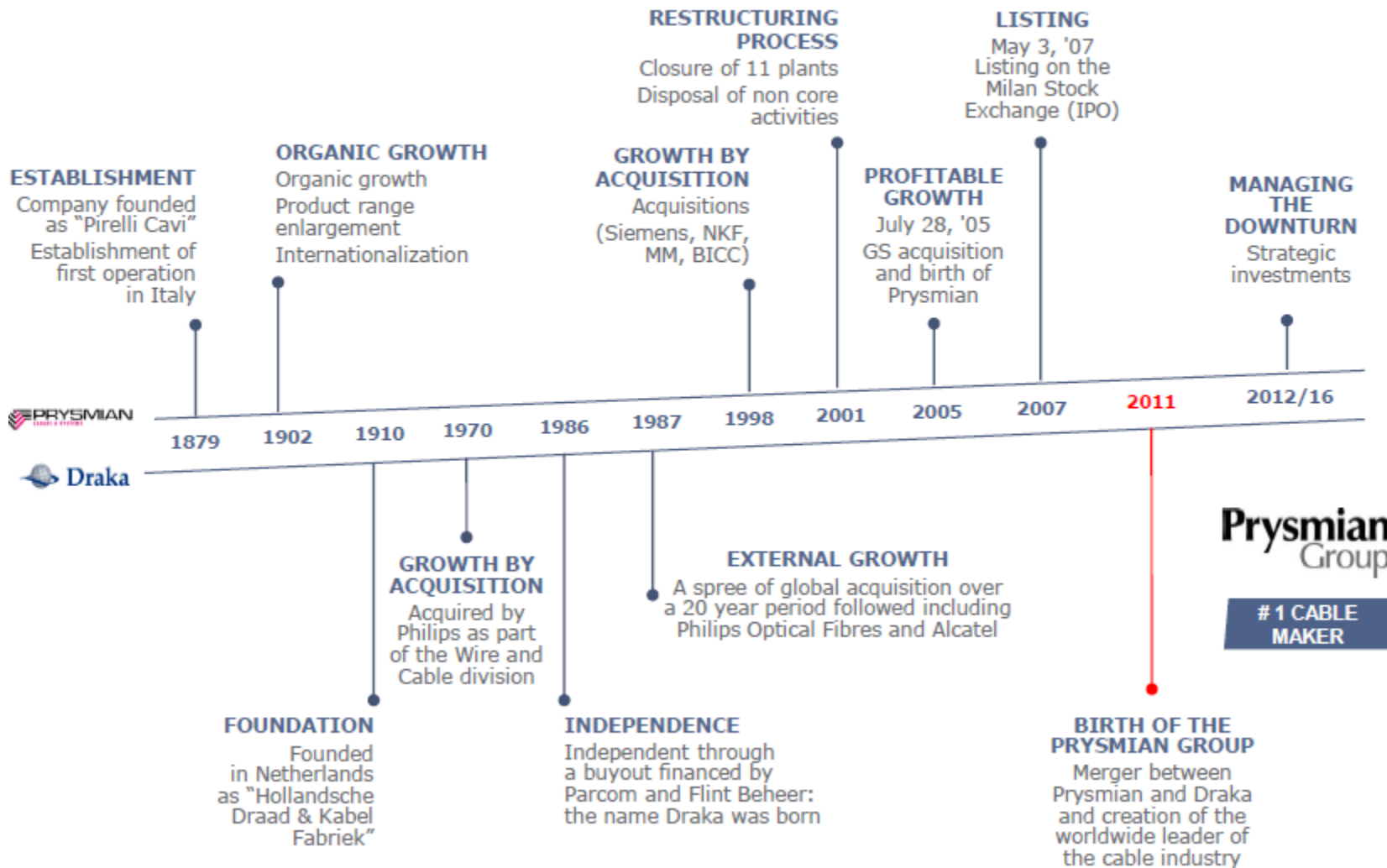
Our Business Overall

A TRULY GLOBAL GROUP



Our Business Overall

A JOURNEY THAT BEGAN TWO CENTURIES AGO



Our Business Overall

Our Brands Structure

<p>ONE CORPORATE BRAND</p>	<p>Prysmian Group</p> <p><i>The corporate brand represents the organization</i></p>
<p>TWO COMMERCIAL BRANDS</p>	<p></p> <p><i>Prysmian and Draka commercial brands both remain in use around the globe</i></p>
<p>MULTIPLE PRODUCT BRANDS</p>	<p></p> <p><i>Improved product portfolio keeps the best products and technologies from both organizations</i></p>

"We create customer value through innovation"



UC CONNECT[®]

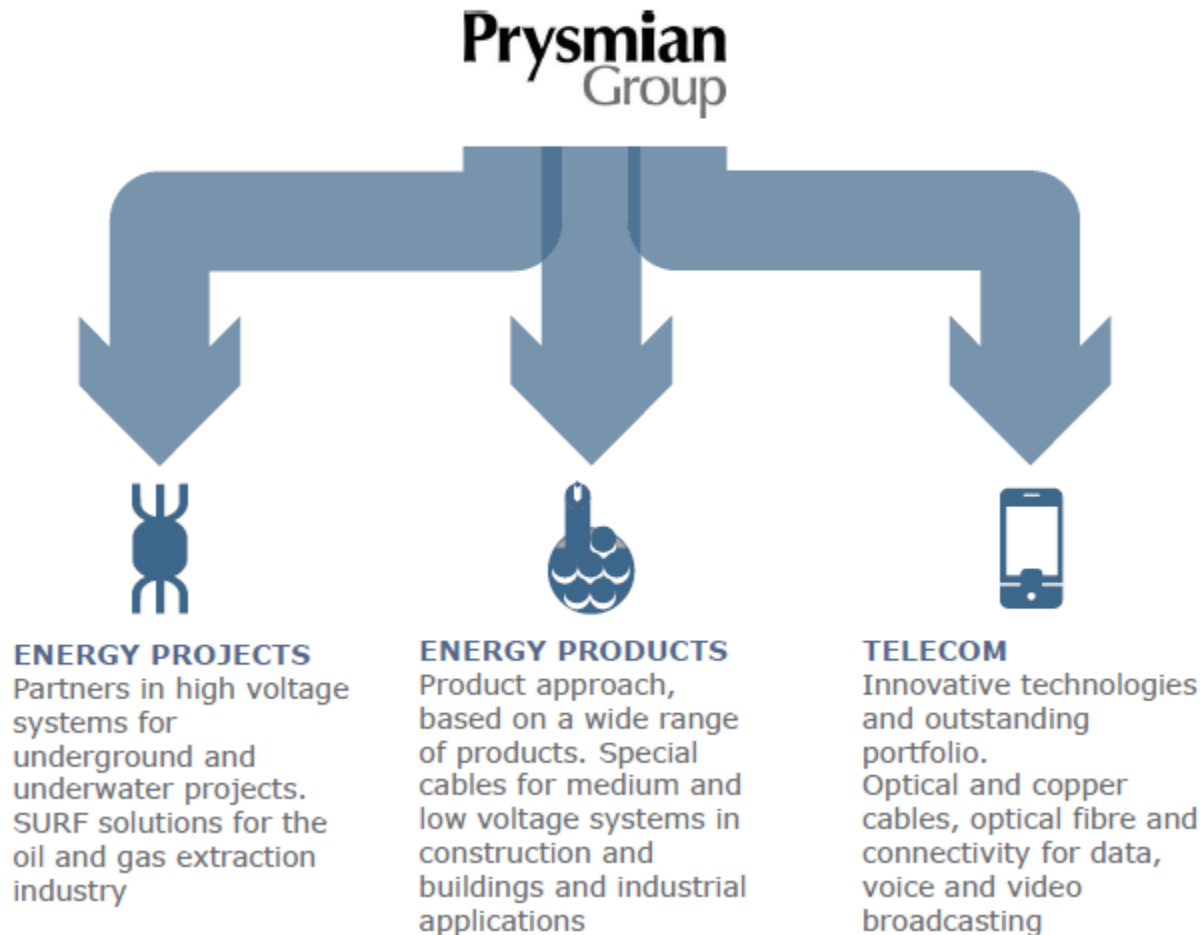
Draka UC is our Group's latest innovation into providing a complete structured cabling solution for our customers.

Our Business Overall

MARKET APPROACH



Our Business is organised into Energy and Telecom
The Energy sector has a dual market approach



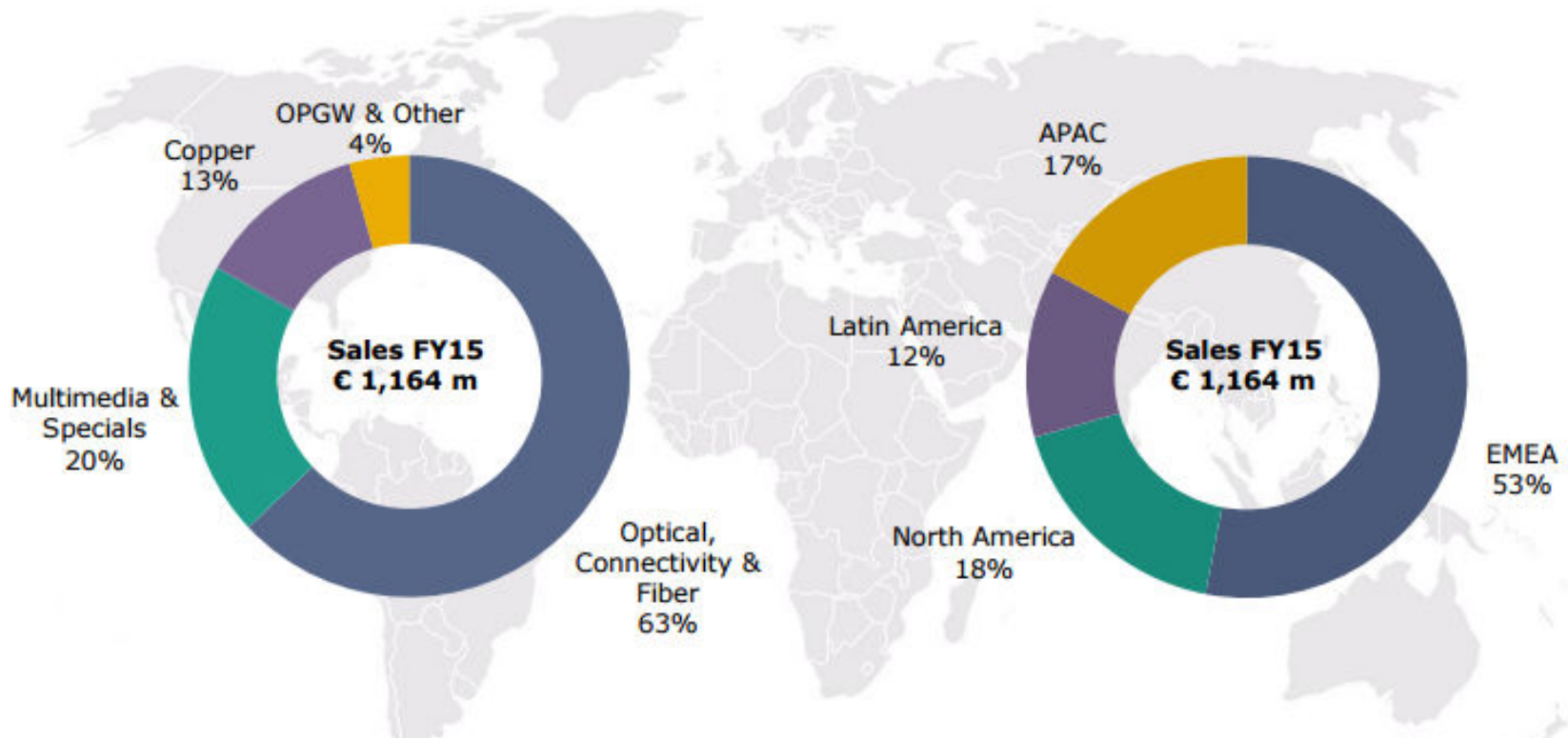
Our Business Overall

Telecom

Sales breakdown

Sales by business

Sales by geographical area



Our Business Overall

TELECOM BUSINESS

FIBRE



A wide range of **optical fibres** designed and made to cater to the broadest possible spectrum of customer applications, including single-mode, multimode and specialty fibres.

The Group also has at its disposal every currently available **technology** for the manufacture of optical fibre, allowing it to achieve optimal solutions for different applications.

TELECOM SOLUTIONS



Solutions and connectivity products used for telecommunication networks.

Wide range of STANDARD **optical cables (from 1 to 1,700 fibres)** or designed for challenging environments. Passive **connectivity** solutions to ensure efficient management of optical fibre within networks. **Copper cables** for underground and overhead cabling solutions.

MULTIMEDIA SOLUTIONS



Cable solutions serving communication needs in **infrastructure, industry and transport**, for a diverse range of applications: cables for television and film studios, cables for rail networks, light-signalling cables and cables for track switching devices, as well as cables for mobile telecommunications antennae and for communication networks.

Our Business Overall

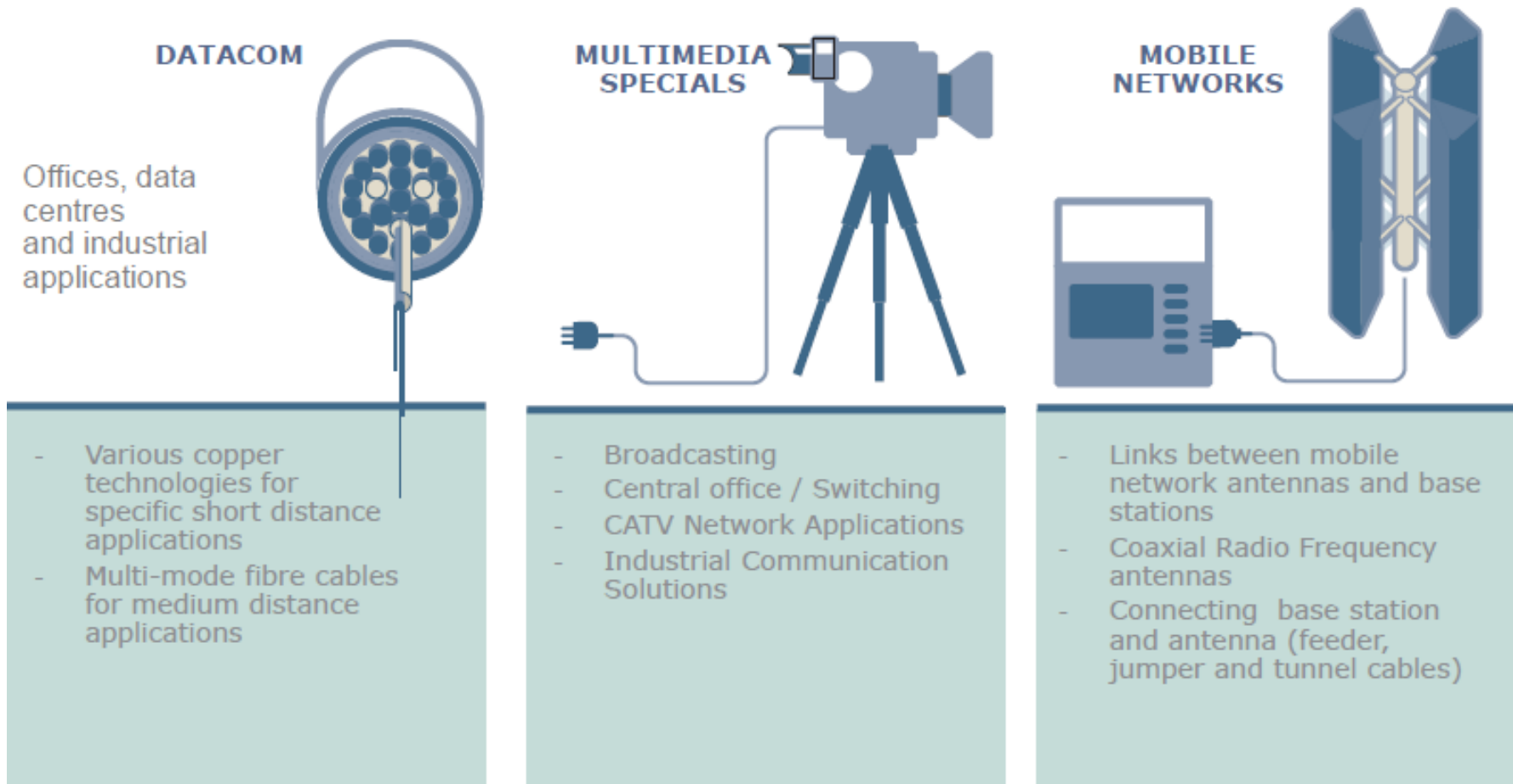
"Multimedia Solutions provides cable solutions for all kind of communication needs in premises, industry and transport infrastructures."

- Although everybody nowadays is using mobile phones, the **vast majority of applications is run on cabled infrastructures**
- **MMS develops, produces and sells** copper and optical fibre cables that cover virtually every **communications application** in this field
- Technologies involved cover **wire based cable for signaling and control purposes**
 - Twisted pair cable / balanced
 - Coaxial cable / unbalanced
 - Fibre optic cable, both multi- and singlemode



Our Business Overall

MMS is generally defined as the data communication business providing cable solutions for all kind of communications needs in premises, enterprises, industry and transport infrastructures.

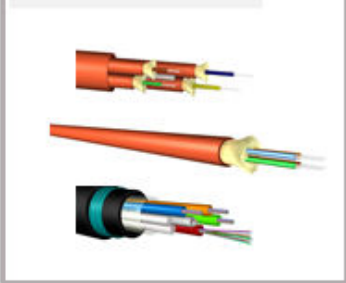


MMS Products Overview

MMS Products Overview

Complete range of communications cables solutions

1. Fibre Data



- Fibre optical data cables mainly utilizing multimode fibres with focus on OM3/OM4/BB.
- Usually LSZH for indoor applications, compact high density design for minimal space usage
- SM & OM1 are considered standard

2. UC Connect



- Connectivity solutions for both copper and fibre to complete a structured cabling channel link
- Higher technology and premium designs are focus on Cat 6 & Cat 6a
- SM & Cat 5e connectivity are considered standard range

3. MMSpecials



- Premium range focus on ICS for SCADA & DCS. Ie Bus cables, PAGA, Industrial Ethernet
- Standard range focus on CCTV usages ie Coaxial, and BMS ie 2464 /485 modbus signals
- Added value for customization, ie SWB ./ SWA / LSZHFR

4. Copper Data



- Twisted pairs Category cables from 5e to 8 for data transmission in Ethernet.
- Cat 5e to Cat 6 is standard range
- Cat 6a and above is premium range with stronger focus on shielded cables.
- Can be value added with SWB.

5. Mobile Network

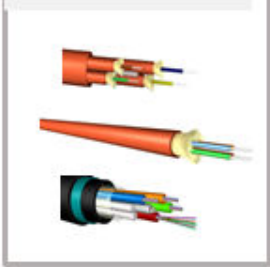


- Coaxial Radio Frequency antennas for mobile networks, RF/RFA types
- Connectivity (feeder & jumper cables) between base station and antennas

MMS Products Overview - UCFIBRE®

Overview

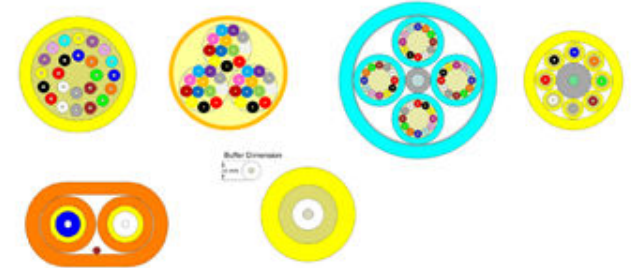
1. Fibre Data



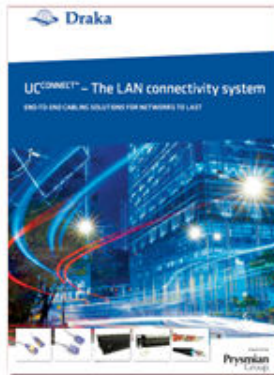
Indoor FO Cables

- Used in indoor premises, LANs, Datacenters.
- Tight buffered, breakout, compact designs.
- Zipcords, Interconnect 2~8 cores allows connection to desks.
- LSZH mostly to IEC 60332-3C.
- Available up to OM4 , bendbright XS.

Product types

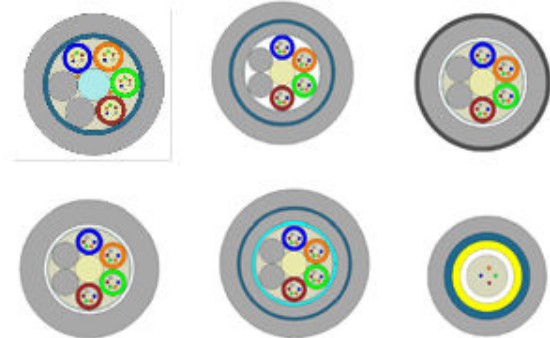


UCFIBRE®



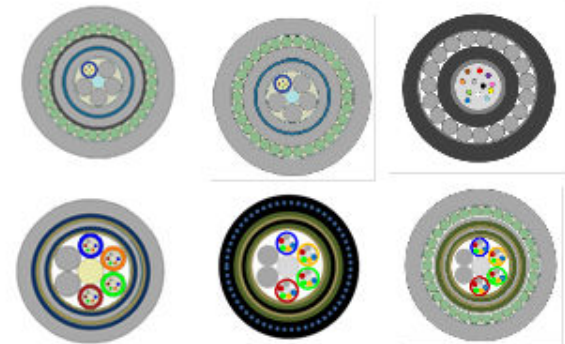
Light Armored FO Cables

- Loose tubes or unitube with water blocking gel.
- Armored by metallic (corrugated steel tape) or non metallic (glass yarns).
- Between buildings, in ducts underground or indoor dark areas.
- HDPE or LSZH.
- Good water blocking properties.



Specialty FO Cables

- Loose tubes, heavily armored by double sheaths and steel wire armoring.
- Special chemical resistance sheath, Nylon
- Used mainly in industrial, direct buried, OGP and harsh elemental environment.
- Fire resistance type using special fire barriers.
- Rodent/Termite/Water protected, can be LSZH.



MMS Products Overview - UCCONNECT®

Overview

Product types



UCC_Copper_Keystones Jacks

- Plug in connectors for patchcord to cable.
- Available in premium, toolfast
- Available in standard, punchdowns and toolfree.
- Cat 5e to Cat 6a.



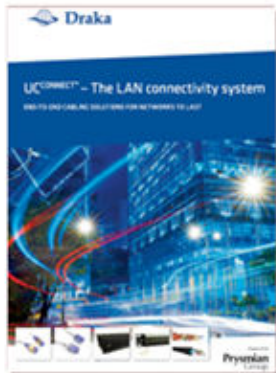
UCCONNECT®

UCC_Copper_Patchcords

- Stranded copper cable terminated with RJ45 connectors on both side.
- Available in premium and standard level.
- Cat 5e to Cat 6a.



1/2



UCC_Copper_Panels & Managements

- Housing for the proper arrangements of keystones, so that patching can be done neatly.
- Punchdown and empty panels.
- Available in premium and standard level.
- Cat 5e to Cat 6a



UCC_Copper_Faceplates

- Plastic or metal plating at the end of the work for end connection to machines.
- Cosmetic outlook is concern.
- Available in premium and standard level.
- UK, France, Asia design



MMS Products Overview - UCCONNECT®

Overview

Product types



UCC_Copper_Accessories

- Accessories for security ie Panel secure plug, release key.
- Termination tools for Toolfast and normal punch down keystones jacks.



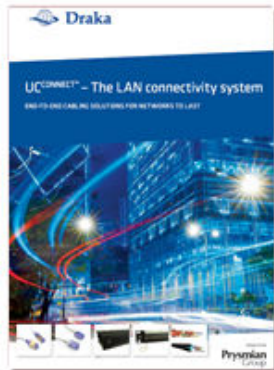
UCCONNECT®

UCC_Copper_SmartMANAGE

- A solution of interfacing connectivity primarily panels and patch cords which are linked by a pre-set software, to monitor various status of any points, ie loading %, connection %, and breakage, point-point trace, loose links etc..



2/2



UCC_Multimedia boxes

- Office/home points for jointing of horizontal to last end connection to peripherals.
- Copper or fibre or both connectors boxes are available.



UCC_Fibre_Adaptors

- Available in multiple connectors types ie LC/FC/ST/SC/Escon/MTRJ.
- UPC (ultra polished contact) is default, Angled Polished Contact is also available.



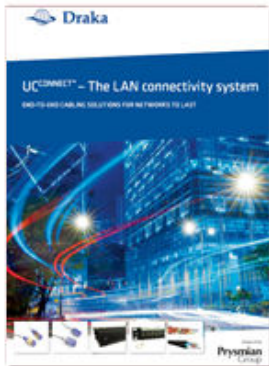
MMS Products Overview - UCCONNECT®

Overview



UCCONNECT®

3/3



UCC_Fibre_Patchcords & Pigtaills

- Available with G652D, OM1 & OM2 and specialty fibres, OM3, OM4, BendbrightXS bend insensitive fibres.
- Available in multiple connectors types, ie LC/FC/ST/SC

UCC_Fibre_Panels

- Enclosures for cross connections.
- Aluminum for light weight
- Drawer and fixed types
- Normal 1U to high density 4U 576 ports LC.

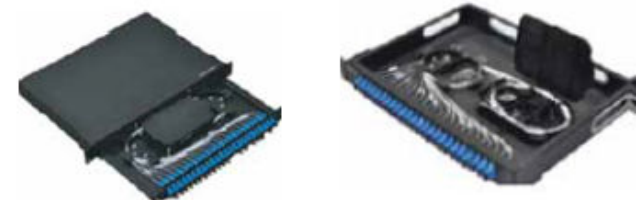
UCC_Fibre_MPOs

- The MTP/MPO cabling system is a factory pre-terminated and tested solution with a high density MPO connector. Low loss.
- Available in complete solution for MPO, ie Pre-terminated FO cables with MPO, modules etc

UCC_Fibre_IDC Cabinets

- Standard 19' / ETSI racks configures with mounting rails, shelves and sub racks.
- Specially design locking mechanism
- Compatible with all 19' rack products
- 42U or 47U, double depth racks available.

Product types



MMS Products Overview – MMS Specials

Overview

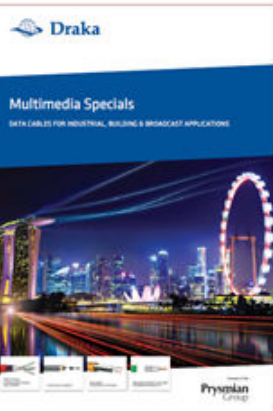
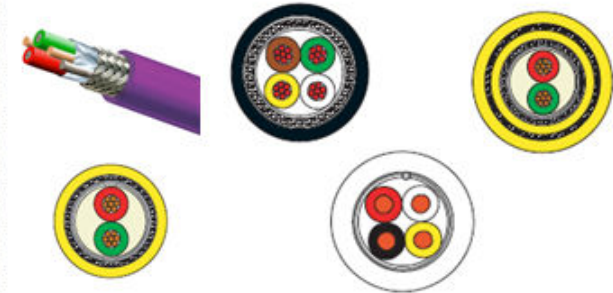
Product types

3.MMSpecials



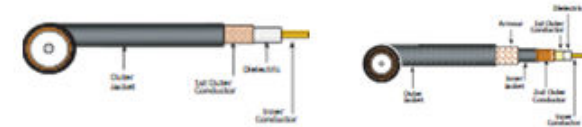
Bus Cables

- Used for interconnecting sensors to monitoring peripherals ie computers.
- Characteristics usually shielded, bare conductor, and have high capacitance tolerance.
- For fast data rate transfer.
- Profibus DP/PA, Fieldbus, Canbus etc..



Coaxials

- Used as transmission line for higher frequency signals, primarily in CATV and CCTV usages.
- 75ohm primarily for Pictures, 50ohm for Data.



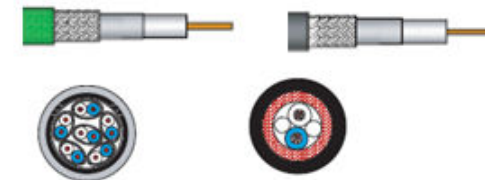
Screened Data & PAGA

- Control data cables used primarily for serial link networks, also mainly in building management for simple logic control ie Door access, carpark sensors, HVAC sensors, lighting, intercom, Public Alarm & General Address.



Studio & Broadcast

- Studio cables used in media broadcast facilities.
- Audio and multipairs cables for connecting broadcasting equipments.
- Microphone cables, audio cables, video links etc.



MMS Products Overview - UC DATA®

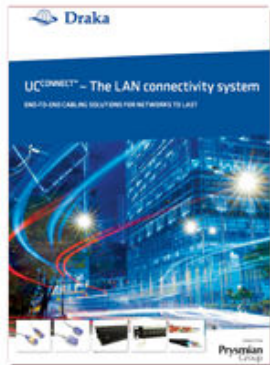
Overview

Product types

4. Copper Data

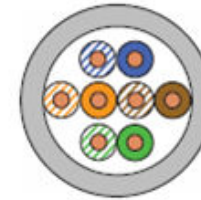


UC DATA®



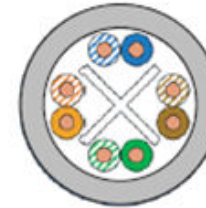
Category 5e

- Class D, link/channel up to 100MHz
- Up to 1000BASE-T
- Typical 24 awg conductor size
- 25 watts carrying for POE applications
- Used primarily in premises.



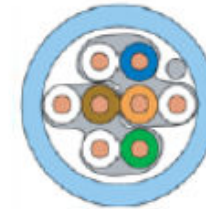
Category 6

- Class E, link/channel up to 250MHz
- Up to 10GBASE-T , 55m max.
- Typical 23~24 awg conductor size
- More stringent in Xtalk & system noise.
- Used primarily in premises & enterprise.



Category 6a

- Class Ea, link/channel up to 500MHz
- Up to 10GBASE-T, 100m
- Typical 23 awg conductor size
- High alien-Xtalk performance in higher freq.
- Used primarily in enterprise and datacenters.



Category 7

- Class F, link/channel up to 1000MHz
- Up to 10GBASE-T, 100m
- Typical 22~23 awg conductor size
- High alien-Xtalk performance in higher freq.
- Used primarily in datacenters & future proofing



MMS Products Overview - UC DATA™

Overview

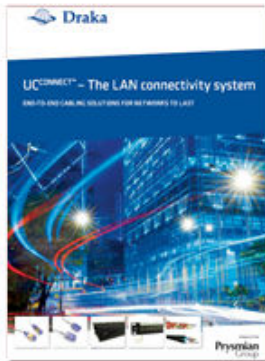
Product types

4. Copper Data



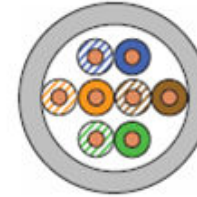
UC DATA™

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Category 7a

- Class F_A, link/channel up to 1200MHz
- Suitable for multiple applications ie CATV (862MHz)
- Typical 22~23 awg conductor size High alien-Xtalk performance in higher freq.
- Used primarily in datacenters & future proofing
- Not recognized by EIA/TIA yet.



Category 8.2 @ 40Gbits !

- Class F_A, link/channel up to 2000MHz!
- World first certified channel with Cat 8.2 acc. ISO/IEC 11801-99-1 Class II
- Compact 22 awg, SFTP design.
- Used exclusively in high transfer flow datacenters requiring 40Gb/s up to 30m.



MMS Products Overview – Mobile Network

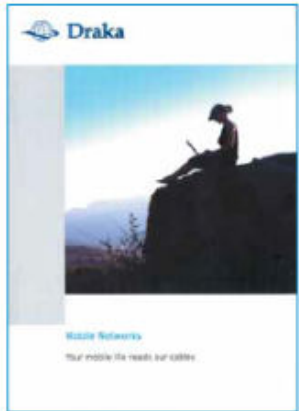
Overview

Product types



RFX & RF2X

- coupled mode cables with a corrugated and milled outer conductor. RFX cables have slots in one line on the outer conductor and RF2X have slots in two lines on the outer
- deliver excellent longitudinal attenuation and coupling loss.



RFA, Feeder Cables

- Radiating or "leaky" cables that transmit and receive radio waves, enabling transmission in enclosed area ie tunnels, elevators, basements etc..
- Standard size 1/4, 3/8, 1^{5/8}, 7/8 etc..
- In Copper or Aluminum conductors.



Mobile Networks

Jumper Cables

- For antenna line connections.
- Super flexible cable and a special connector head design, and a soldered inner and outer conductor.
- Standard 1/2 inch, angled or non angled type.
- Only copper conductor.



MMS Products Overview

*Analysis on FO and CU Cable Competencies

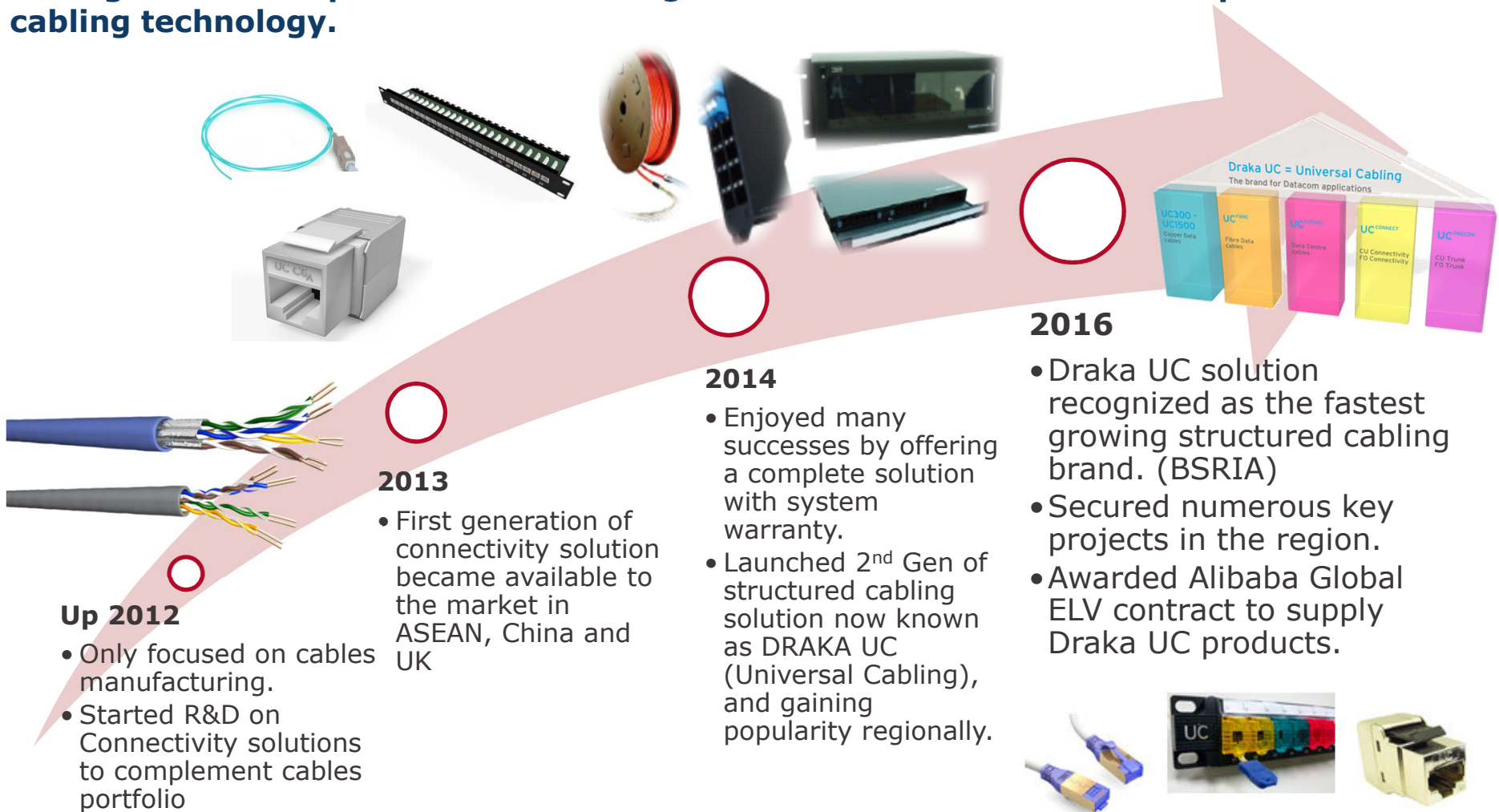
**conducted based on competitors known portfolio and MMS market research*

S/n	Brands	Origin	Structured Cabling		BMS Cabling	Studio & Broadcast	Mobile Networks
			FO Solutions	Cu Solutions			
1	Prysmian Group	Italy	Strong portfolio, up to OM4, highest technology available. Leading manufacturer and technology owner	Strong portfolio, up to Cat 8.2, highest technology available. Leading manufacturer and technology owner	Strong portfolio under Draka brand, capable of customization.	Strong portfolio under Draka brand	Strong portfolio under DRAKA brand
2	Commscope	USA	Strong portfolio, dependable of FO OEM manufacturers	Strong portfolio, up to Cat 7a, manufacturer.	None	Strong portfolio	Strong portfolio
3	Corning	USA	Strong portfolio, up to OM4, highest technology available. Leading manufacturer and technology owner	Not focused in Copper	None	None	None
4	Belden	USA	Basic portfolio, dependable of FO OEM manufacturers	Basic portfolio, dependable of CU OEM manufacturers	Strong portfolio	Strong portfolio	Strong portfolio
5	Tyco Electronics	USA	Basic portfolio, dependable of FO OEM manufacturers	Strong portfolio, depending on mix of OEM manufacturers and own production	None	None	None
6	Panduit	USA	Basic portfolio, dependable of FO OEM manufacturers	Strong portfolio, only on connectivity	None	None	None
7	Nexans	France	Basic portfolio, dependable of FO OEM manufacturers	Strong portfolio, up to Cat 7a, manufacturer.	Minimal	None	None
8	Datwhyler	Swiss	Basic portfolio, dependable of FO OEM manufacturers	Basic portfolio, dependable of CU OEM manufacturers	None	None	None
9	3M	USA	Basic portfolio, dependable of FO OEM manufacturers	Basic portfolio, dependable of CU OEM manufacturers	None	None	None
10	Siemons	USA	Basic portfolio, dependable of FO OEM manufacturers	Strong portfolio, up to Cat 7a, technology owner	None	None	None
11	R&M	Swiss	Basic portfolio, dependable of FO OEM manufacturers	Strong, only on connectivity	None	None	None
12	Lapp Kabel	Germany	Basic portfolio, dependable of FO OEM manufacturers	Basic portfolio, dependable of CU OEM manufacturers	Strong portfolio	None	None

Draka UC – Our New Generation of Structured Cabling Solution

DRAKA UC – Structured Cabling

With more than a 100 years of cable manufacturing experience, we now complement our structured cabling portfolio with a complete end-end solutions, aiming to be a top structured cabling brand with our wide R&D expertise and cabling technology.



DRAKA UC – Structured Cabling

With just a short years of 2 years, Draka UC is now recognized in ASEAN as the up and coming structured cabling brand, truly from a cable manufacturer!

Total market

The SEA market leader continues to be TE Connectivity, with an aggregated market share of 28% taking into account both copper and fibre cabling products.

TE is market leader in 4 of the 6 markets considered (Indonesia, Malaysia, Thailand and Vietnam), and it is the second largest player in Singapore, after Nexans.

Panduit is the second largest player in the region and is the market leader in the Philippines.

CommScope, Prysmian, Nexans, Belden, Datwyler, R&M, Schneider Electric and Siemon complete the top 10 ranking, but there are several other players in the market (FibreFab, Belden, Interlink

Corning, LS Systems, LAPP Group, Alantech, CAE, Furukawa and DTC, among others).

The Prysmian Group (through the Draka UC brand) has seen remarkable growth over the past two years, after

launching copper and fibre connectivity solutions for copper and fibre products in 2013.

The company has production facilities in Singapore.

Nexans' share across the region is estimated at 7%, being market leader in the main SEA market and the second largest player in Vietnam.

Datwyler's main market is Singapore, where it is also a local manufacturer. The company is focused on the LAN market and has been awarded with several hospital projects in 2015.

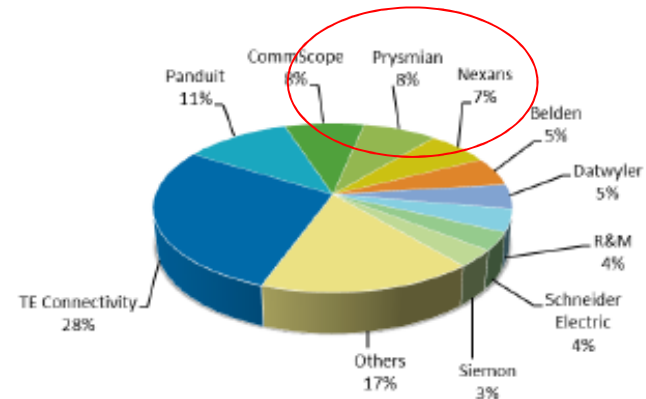
R&M continued to grow in the region and has gained market share in Singapore, Indonesia and Malaysia.

Singapore

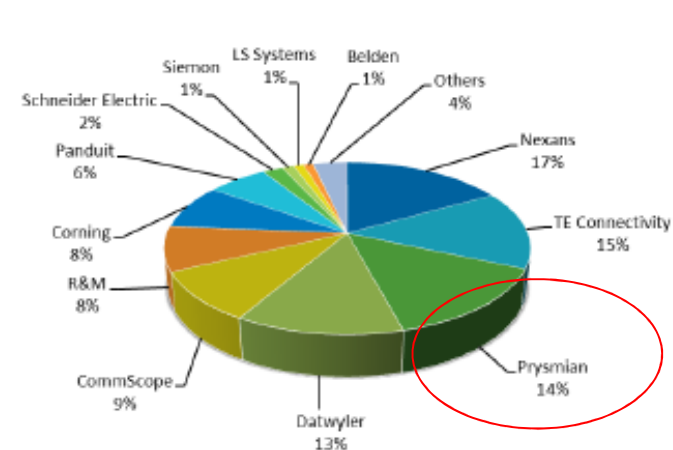
Singapore is the largest market, estimated at under US\$ 48 million. Nexans is the market leader in Singapore, followed by TE Connectivity, Prysmian and Datwyler.

CommScope, R&M, Corning and Panduit are the next tier of players with 6%-9% of the market share each.

Regional market shares for structured cabling products, 2015



Market shares for cabling products Singapore, 2015




Source: BSRIA

DRAKA UC – Structured Cabling


Category 5e Solution Configurator

UCDATA™, UCCONNECT™

Floor distributor




24-Port
 HP-42441020 Express Panel, Fibre, Cat 5e, 100°
 HP-42441020 Express Panel, Copper, Cat 5e, 100°
 HP-42441020 Express Panel, Single, Cat 5e, 100°
 HP-42441020 Express Panel, Single, Cat 5e, 100°
 HP-42441020 Express Panel, Single, Cat 5e, 100°
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48-Port
 HP-42441020 Express Panel, Fibre, Cat 5e, 100°
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 HP-42441020 Express Panel, Single, Cat 5e, 100°
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Installation cable




UTP
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Wall outlet or Consolidation point



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DRAKA UC – Structured Cabling

Category 6 Solution Configurator

Shielded Permanent Link
UCDATA™, UCCONNECT™

Floor distributor



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- DF10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- DF10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- DF10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- DF10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports



- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports



- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports

Installation cable



- IC10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- IC10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- IC10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports

Wall outlet or Consolidation point



- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports



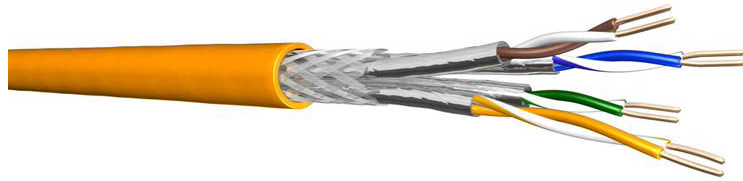
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- W10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports



- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports
- WO10000 10000 ports, 10000 ports, 10000 ports, 10000 ports, 10000 ports

DRAKA UC – Structured Cabling

Draka UC Cat8.2 22 AWG 4-Pair S/FTP (2 GHZ)



Worldfirst 
3rd party Certified **40G** Copper Channel

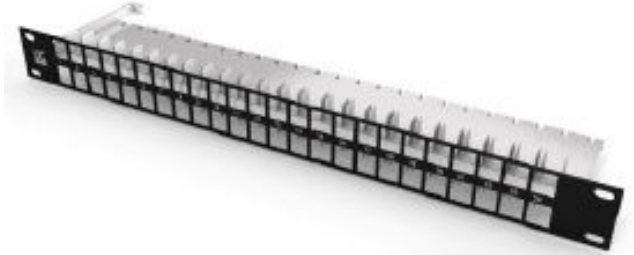
Draka UC Cat8.2 to Cat 8.2
Patch Cord



Draka UC Cat 8.2
Connector (4Ghz)



Draka UC Cat8.2 2RU 48
Port Empty Patch Panel



Draka UC RJ45 to Cat 8.2
Patch Cord



Draka UC Cat8.2 1RU 24
Port Empty Patch Panel



DRAKA UC – Structured Cabling

WideCap-OM4 Multimode Fibre Fibre Optimised for Multi-Wavelength Systems

Product Type: WideCap-OM4
Coating Type: Dual Layer Primary Coating (DLPC9)

Issue date: 09-2014
Supersedes: -



WideCap-OM4 multimode fibre delivers OM4 performance in the 850-950nm window while maintaining compatibility with current laser-optimised multimode fibres. Traditional OM4 fibres offer high bandwidth in a narrow band centred at 850nm. To satisfy the exponentially increasing information demand in Data Centres, the capacity of WideCap-OM4 has been extended to longer wavelengths up to 950nm. WideCap-OM4 and multi-wavelength systems are a viable solution for future 100 and 400Gbps transmission systems. WideCap-OM4 incorporates BendBright® technology to deliver enhanced macro-bending performance.

Features	Advantages
WideCap-OM4 multimode fibre is optimised for multi-wavelength systems	WideCap-OM4 is designed for high performance data centres to support the advent of multi-wavelength systems at 40/100/400Gbps
WideCap-OM4 offers OM4 capacity in the 850-900nm window	WideCap-OM4 supports four 25Gbps channels in the 850-950nm window
WideCap-OM4 with BendBright® technology to deliver enhanced macrobending performance	WideCap-OM4 allows the use of smaller, high density fibre management systems in space limited data centres, computer rooms and LANs, improving overall system network reliability



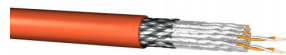
DRAKA UC – Structured Cabling

DATA CENTRE CABLING SOLUTIONS



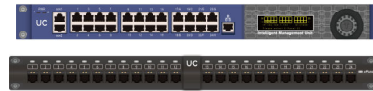
Modules Connectivity

- Fiber & Copper version available
- MTP® / MPO for fiber modules
- 12 cores high density fibers modules Bendbright™ fibers inside
- Low loss fibers or standard OM3 / 4
- Copper cassette up to 6 x 6a shielded
- Bunched cat cables terminated in factory



Compact Cat 7 Multi pairs

- High density cabling utilizing high pairs laying technology, up to 24 pairs
- S/FTP version, compact / loomed
- 40% less weight, 50% less cabling space, increasing 20% higher air cooling



Smart Management

- UCSMART infrastructure management
- Real time IP traffic and cabling inputs monitoring.
- Alert tool for mis-patching / faulty connections, in-proper fitting
- User friendly and easy to operate



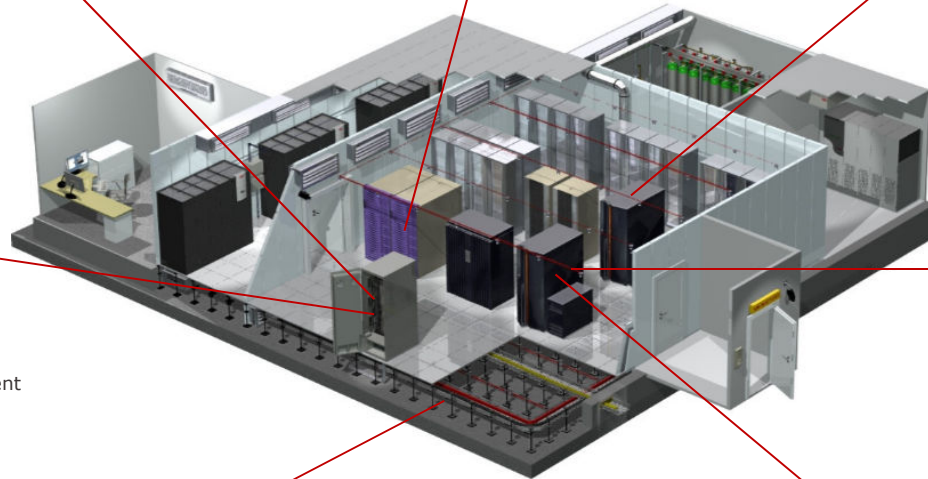
Data Centre Cabinet

- 42HU IDC for high density cross-connect
- Designed for both fiber and copper cabling
- Power supply unit compatible
- Enhanced card access / key management



Fiber Optics Panels

- 1U, 2U, 4U patch panels
- Lightweight, highly durable
- Fixed or sliding body for easier access
- Preloaded when requested
- Modules up to 96 fibers per U
- Up to 384 fibers 3U with cable management
- Higher density available



Copper Patch Cords

- Cat 6a – shielded patch cords
- Small 30 awg Slimflex available
- Red-Blue-Green-Yellow-Grey-White
- Standard lengths or as demand
- Highly durable with dual boot design



10G – 40G Ethernet Cabling

- Category Cables up to Cat 8.2 standards
- Utilize Draka's tight extrusion, slim design
- High performance fibers up to OM5
- Sole proprietary technology PCVD fibers
- Min heat dissipation from copper cabling and superior transmission for energy savings



Copper Cables Panels

- Patented angled foldable
- Self adjustable swivel type
- Staggered panel 6a
- Optimized for Data Centre cabling
- Ideal for high density patching



Fibre Pigtailed / Patch cords

- Standard or Bendbright™ fibers
- Low loss connectors
- Mini duplex LCs / LC / ST / SC / FC
- "Long tail" LCs for easier removal

































Pre-Terminated Cabling

- Fiber and copper pre-terminated
- Plug & Play convenience
- Available in all transmission modes
- Red-Blue-Green-Yellow-Grey-White
- Standard lengths or as demand

DRAKA UC – Structured Cabling

Positioning in the Market – A flexible market leader

Segment	Competition	Offer attribute	Structured Cabling	Value Adds	Supported By
<div style="background-color: #003366; color: white; padding: 10px; border-radius: 10px;"> <p>Premium</p> <p>DCs BANKS Office Bld</p> </div>	<div style="border: 1px solid #003366; padding: 5px;">            </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <ul style="list-style-type: none"> • Manufacturer expertise & flexibility • Technology Owner • Superior shielding performances • Secure connectivity • High density • Fast lead time </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <ul style="list-style-type: none"> • OM4 Bendbright™ • C6A FTP & UTP • Pre-term Solution • High Density • Cat 8.2 full solution  <ul style="list-style-type: none"> • C6 & C5E UTP • 110 Voice System  </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <p>Product Specialties</p> <ul style="list-style-type: none"> - Fibers - Cat Cables - Tool Fast - High Density <p>Other Products</p> <ul style="list-style-type: none"> - Building Management - Multimedia Specials <p>Flexibility</p> <ul style="list-style-type: none"> - Customization - Partnership <p>Manufacturer</p> <ul style="list-style-type: none"> - Factories visits - Training in Factories - Consultant visits <p>R&D</p> <ul style="list-style-type: none"> - Constant improvement - New products </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <p>Strong projects references</p> <ul style="list-style-type: none"> - World wide - Local region <p>Distribution Channel</p> <ul style="list-style-type: none"> - UK - ASEAN - China <p>Marketing Campaigns</p>  <p>Installers Training</p>  <p>Projects Specs In</p> </div>
<div style="background-color: #0066b3; color: white; padding: 10px; border-radius: 10px;"> <p>Standard</p> <p>Comm Bld Office Bld Institutions Premises</p> </div>	<div style="border: 1px solid #003366; padding: 5px;">            </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <ul style="list-style-type: none"> • Relevant products • Stocks availability • Competitive • “Value for” products • Unshielded expertise • Slim design </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <ul style="list-style-type: none"> • OM4 Bendbright™ • C6A FTP & UTP • Pre-term Solution • High Density • Cat 8.2 full solution  <ul style="list-style-type: none"> • C6 & C5E UTP • 110 Voice System  </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <p>Product Specialties</p> <ul style="list-style-type: none"> - Fibers - Cat Cables - Tool Fast - High Density <p>Other Products</p> <ul style="list-style-type: none"> - Building Management - Multimedia Specials <p>Flexibility</p> <ul style="list-style-type: none"> - Customization - Partnership <p>Manufacturer</p> <ul style="list-style-type: none"> - Factories visits - Training in Factories - Consultant visits <p>R&D</p> <ul style="list-style-type: none"> - Constant improvement - New products </div>	<div style="border: 1px solid #003366; border-radius: 15px; padding: 10px;"> <p>Strong projects references</p> <ul style="list-style-type: none"> - World wide - Local region <p>Distribution Channel</p> <ul style="list-style-type: none"> - UK - ASEAN - China <p>Marketing Campaigns</p>  <p>Installers Training</p>  <p>Projects Specs In</p> </div>

DRAKA UC – Structured Cabling

Component Approval

All our connecting components from cables, keystones, punch down panels to patch cords are component tested !

Individual components that form part of the link/channel, tested to conform compliance to the relevant standards which ensure compatibility as part of any link/channel, when used with other component level approved products.

Relevant Standards:

- Edition 2.2 of ISO/IEC 11801
- CENELEC EN 50175-1 (draft July 2010)
- IEC Connecting hardware standard 60603-7-51
- ANSI/TIA 568-C.2
- IEC Test standard 60512-27-100 (draft 48B/2060/CD)

UC C500 MJ TR S V5

Keystone Jack, Cat.6A, RJ45, FTP, 180°, Tool Fast, Shielded



3.3 Keystone Jacks

Specification

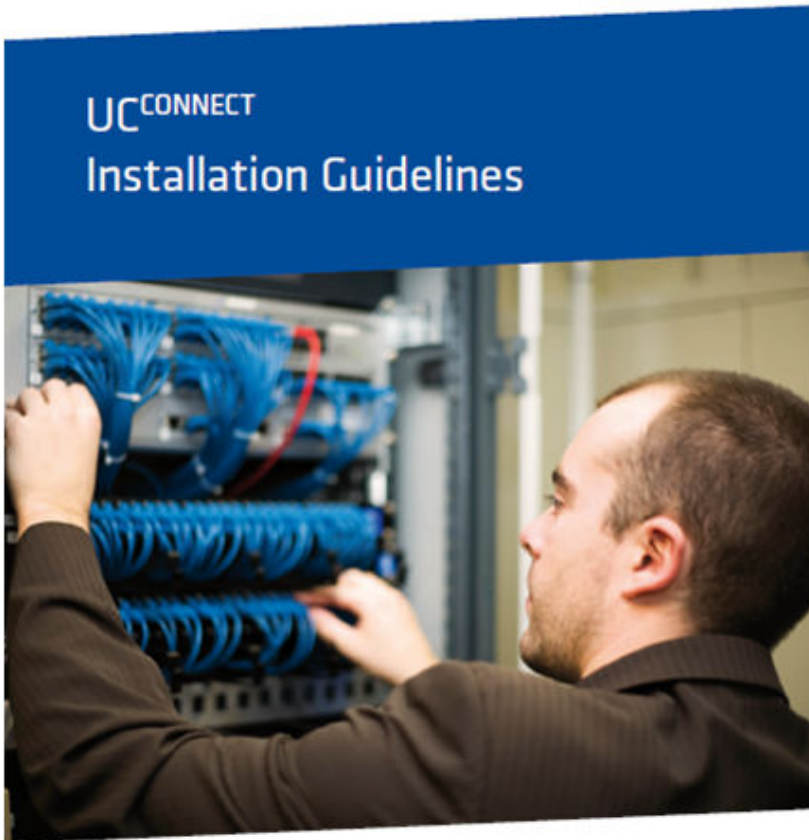
Item	Description
RJ45 Housing	Zinc Alloy with nickel plated
Contacts and IDC	Phosphor bronze
Contact Surface Finish	50u" gold plated over contact area
IDC Surface Finish	Tin plated
IDC Housing	PC, UL94V0
PCB	FR4 94V0



**COMPONENT
TESTED**

DRAKA UC – Structured Cabling

Up to 28 Years System Warranty



A brand of the
Prysmian Group

25 + 3 Years
System Warranty

[Click here to find out more](#)



UNIVERSAL CABLING (UC)

**WARRANTY
GUIDELINES & CONDITIONS**



A brand of the
Prysmian Group

DRAKA UC – Structured Cabling



**Use DRAKA UC.
Connectivity
Solutions that
won't come back
and bite.**

You've always been able to trust the Draka brand for our superior data transmission cables. Now we've taken our vast capability to bring to you our new range of end-to-end network solutions UCCONNECT®.

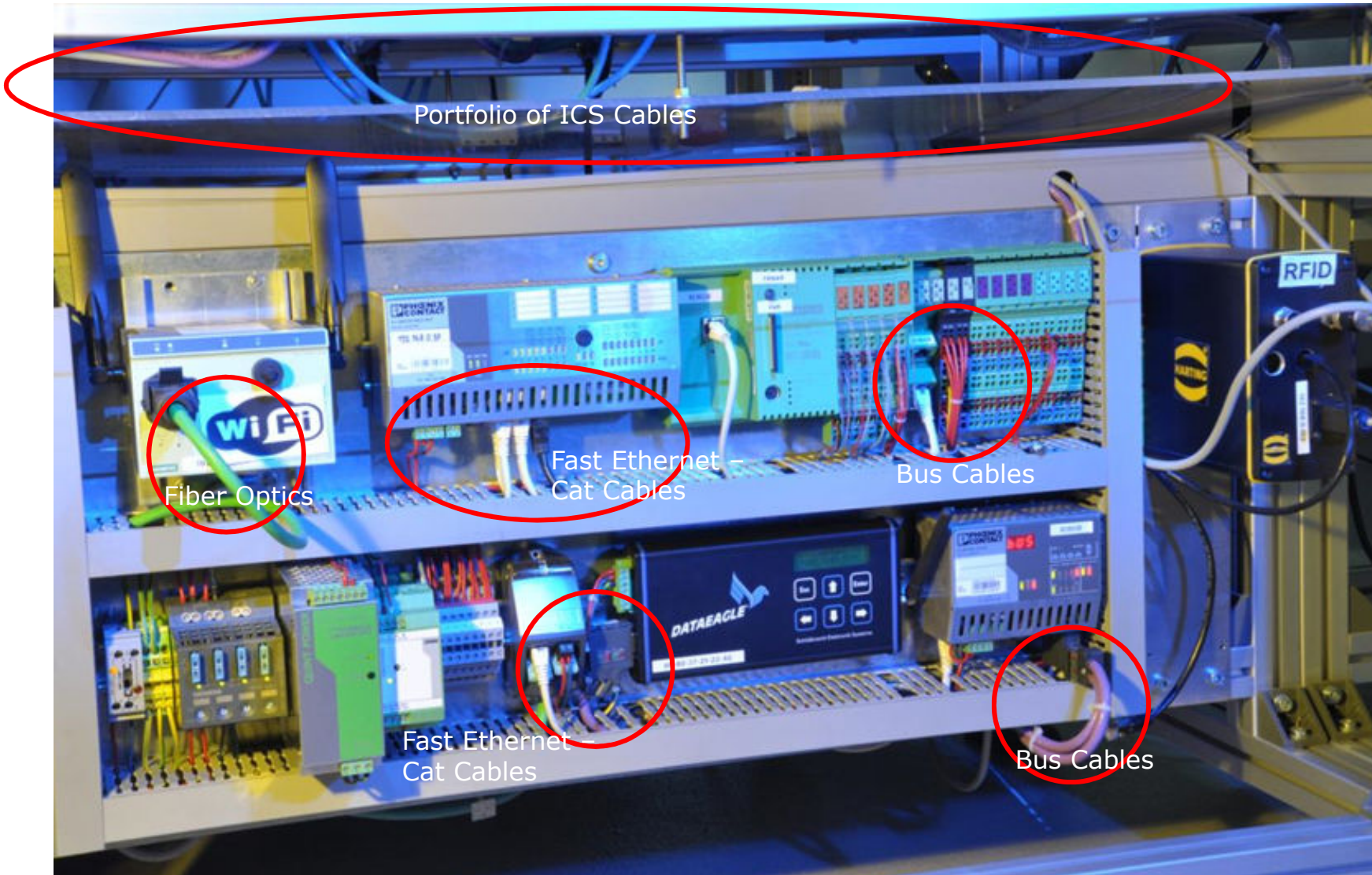


A brand of the
Prysmian
Group

Draka Multimedia Specials Products

MMSpecials Products

Cablings used in Industrial Control System – Industry 4.0



MMSpecials Products

Usages of ICS cables



MMSpecials Products

We offer a complete portfolio for communication cables in industrial usage.

CanBus 120 Ohm & EIB Bus 100 Ohm

Li-2YC11Y 2 x 2 x 0.22m ² FRNC	6
Li-09YS(St)C11Y 2 x 0.35m ² LSZH	7
EIB Bus 100 Ohm	8

Foundation Fieldbus

FF FC 1x2xAWG16/7 PVC	9
FF FC 1x2xAWG18/1 PVC	10
02YSY(St)CY 1x2x1.3/2.55-100 Li PVC	11
FF FC 1x2xAWG18/7 LSHF-FR	12
FF FC 1x2xAWG18/1 GST PVC	13
FF FC 1x2xAWG18/7 SWB PVC	14
FF FC 1x2xAWG18/7 SWB LSZH	15

Profibus

PB PA FC 1x2xAWG18/1 PVC	16
PB PA FC 1x2xAWG16/7 PVC	17
PB PA FC 1x2xAWG16/7 LSHF-FR	18
PB PA FC 1x2xAWG18/19 PVC	19
PB PA FC 1x2xAWG18/7 LSHF-FR	20
PB PA 1x2xAWG18/7 LSHF-FR	21
PB PA FC 1x2xAWG18/1 GST PVC	22
PB PA FC 1x2xAWG18/7 SWB PVC	23
PB DP BASIC 1x2xAWG22/1 LSHF	24
PB DP FC 1x2xAWG22/1 LSHF-FR	25
PB DP FC 1x2xAWG22/1 LSHF-FR + PE	26
PB DP FC 1x2xAWG22/1 PE	27
PB DP FC 1x2xAWG24/19 PUR	28
PB DP FC 1x2xAWG24/19 TRAILING PUR	29
PB DP FC 1x2xAWG22/1 SWB LSHF	30

1.4 Industrial Ethernet

UC300 Cat.5e F/UTP SWB LSZH-FR	31
UC400 Cat.6 F/UTP SWB LSZH-FR	32
IE ToughCat 5e LSHF-FR	33
IE ToughCat 5e LSHF-FR MUD	34
IE ToughCat 7 LSHF-FR	35
IE ToughCat 7 LSHF-FR MUD	36
IE ToughCat 7S* Armoured	37
IE SuperCat 7 HS23 Cat.7 LSHF	38
IE UC900 SS23 Cat.7 (L)H LSHF-FR	39
IE UC900 SS23 Cat.7 PE	40
IE UC900 SS23 Cat.7 PUR	41
IE UC900 SS27 Cat.7 PUR	42

1.5 JAMAK® Industrial Data

JAMAK®	43
JAMAK®-C LSZH	44
JAMAK®-HF	45
JAMAK®-ARM	46

1.6 NOMAK® Industrial Data

NOMAK®	47
NOMAK®-E	48

1.7 LONAK® Industrial Data

LONAK® 2 x 1.3 mm ²	49
LONAK® 2x2x0.65	50
LONAK® 2x2x0.8	51
LONAK® 2 x 1.3 mm ² ARM	52

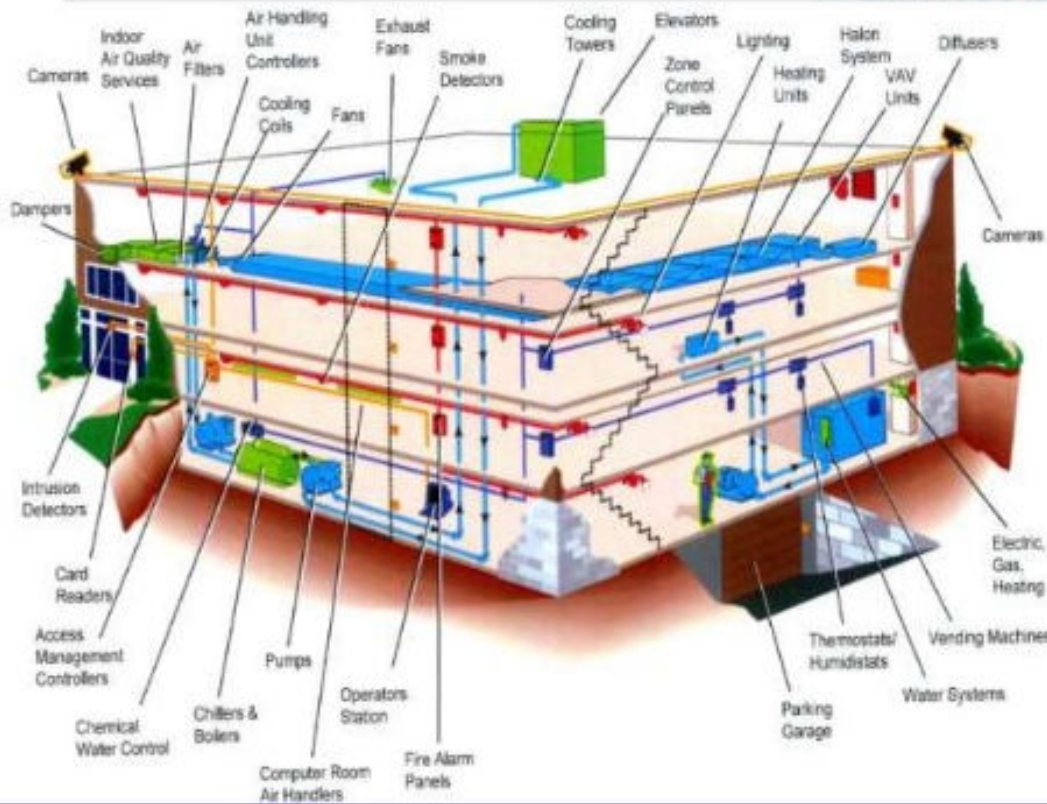
1.8 Outside Plant Industrial FO Cables

UMNWW_ALPA™	53
SM-LVLVWV_LEAD	54
LMNWG_ALPA™	55
TF10020_ALP	56
LTFMSMNWM_NYLON	57

MMSpecials Products

Building management system (BMS) is playing an even bigger role than in the past, integrating more complex and faster transmission speeds networks.

Smart Buildings



Integration with the Smart Grid

Connecting to Smart Cities

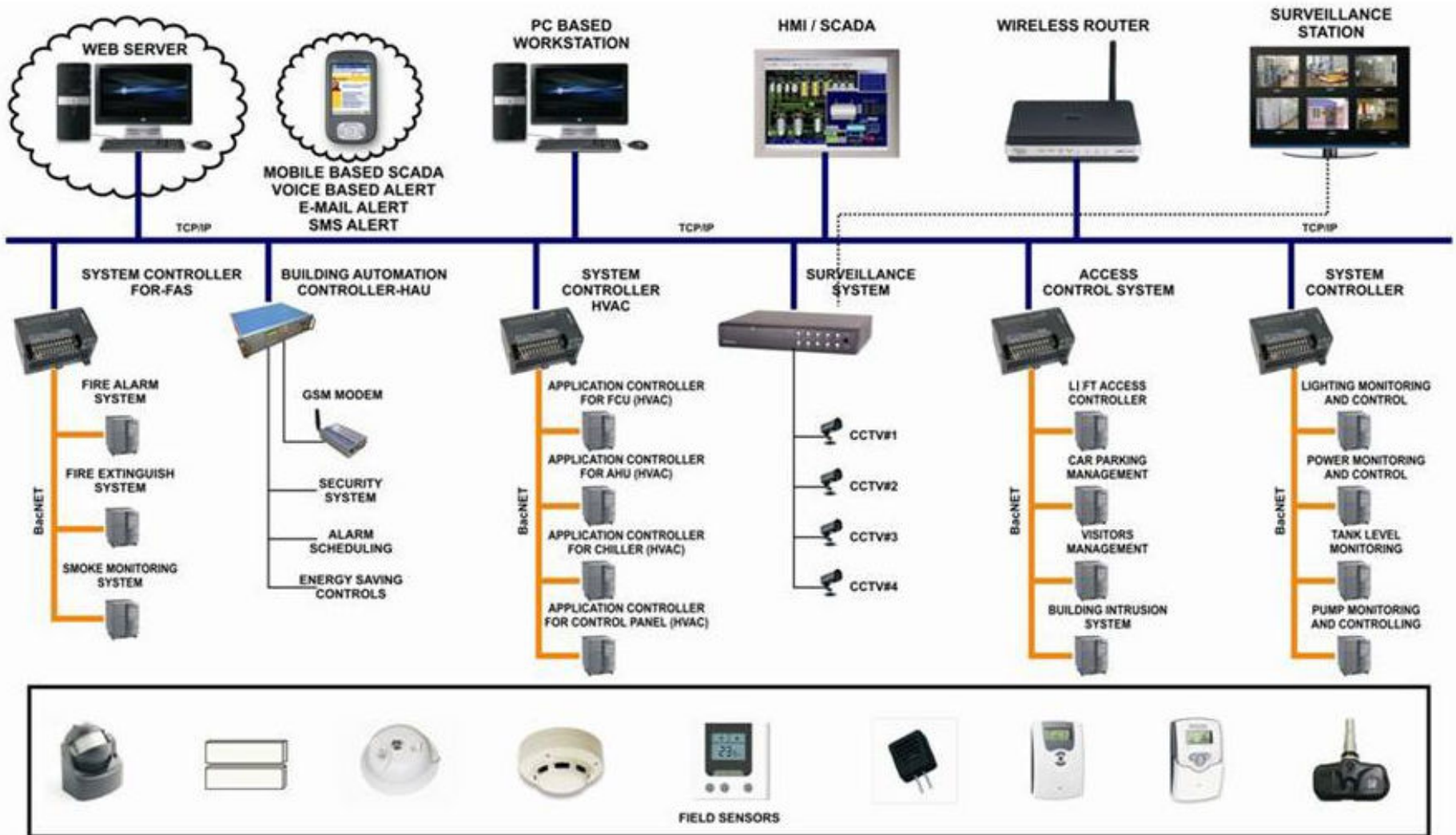
Excellence in Market Intelligence

7



MMSpecials Products

INTEGRATED BUILDING MANAGEMENT SYSTEM



Products Overview – MMSpecials



Product range of coaxial cables , Draka range provide all the required coaxial to ensure transmission of clear and un-interrupted video feedbacks, and RF transmissions.

Draka Coaxial range is renowned for its high screening which secures the performances of the coaxial cables by reducing and preventing interferences and noises.

Up to 60 types of coaxial cables type to service the CATV/CCTV market.

Draka Premium coaxial widely used are

- RG 59 LSZH – For effective transmission up to ~ 700ft (220m), indoor.
- RG 6 LSZH – For effective transmission up to ~ 1000ft (300m), indoor.
- RG 11 LSZH – For effective transmission up to ~ 1500ft (450m), indoor.
- RG 12 LSZH – For effective transmission up to ~ 1500ft (450m), suitable in outdoor / indoor installation.

Key properties

- High screening up to 95% or higher.
- LSZH – Low Smoke Zero Halogen with Flame retardant properties.
- Drum packing – In 500m to reduce wastages and yet easier for transportation and installing.

Products Overview – MMSpecials

Usages of Coaxial Cables



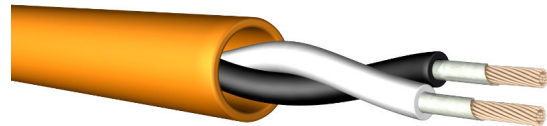
Products Overview – MMSpecials

Fire, Safety, Broadcast, Security & Alarm purposes cables.

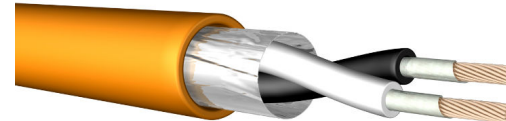
Properties \ Type	Maxfoh™ PAGA Series	SACU Series	FACU Series
Applications	Critical systems ie Public Address General Alarm, Fire Safety System	Security, Communications, Public Address, Sound & Audio	Fire Alarm, Security and Intercom
Conductor	Stranded, Class 2 (Fixed Installations)	Stranded, Class 2 (Fixed Installations)	Solid bare conductor
Fire Resistance	Yes, BS 6387, IEC 60331	No	No
Flame Retardant	Yes , IEC 60332-3C	Yes, up to IEC 60332-3C except PE	Yes, up to IEC 60332-3C except PE
Outdoor usage	In conduit	Yes, PE	Yes, PE
Available Sheath Types	LSZH	PE, PVC-CMR, LSZH	PE, PVC-CMR, LSZH
Shielded	Yes, PAGAS series	Yes, SACS series	Yes, FACS series
Steel Wire Braid	Yes, PAGASB series	Yes, SACSB series	Yes, FACS series

MMSpecials Products

MaxFoh™ Series – ISO/IEC 11801: 95, IEC 61156, EN 50173:95; EN 50288-1, BS 6387 LSZH IEC 61034, comply to IEC 60332-3C



PAGA



PAGAS



SAC (Security Alarm Comms) Series – NEC Article Type FPLR, CL3R, CMR, comply to IEC 60332-1 LSZH - IEC 61034, IEC 60754-1 & 2, comply to IEC 60332-1



SACU



SACS



FAC (Fire Alarm Comms) Series – NEC Article Type FPLR, CL3R, CMR, comply to IEC 60332-1 LSZH - IEC 61034, IEC 60754-1 & 2, comply to IEC 60332-1



FACU

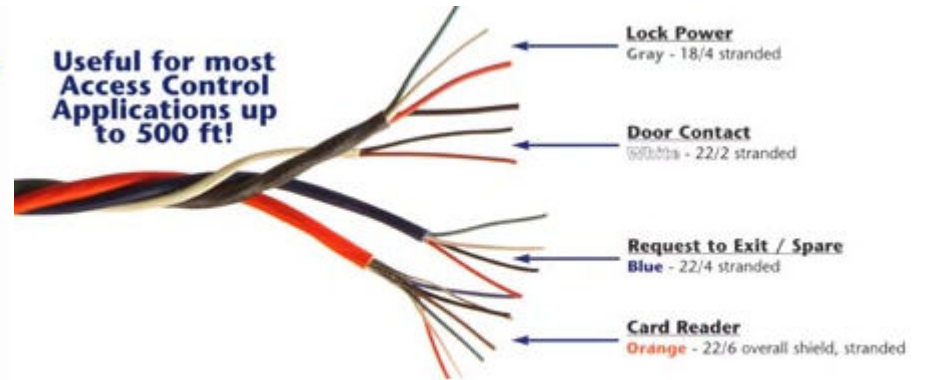
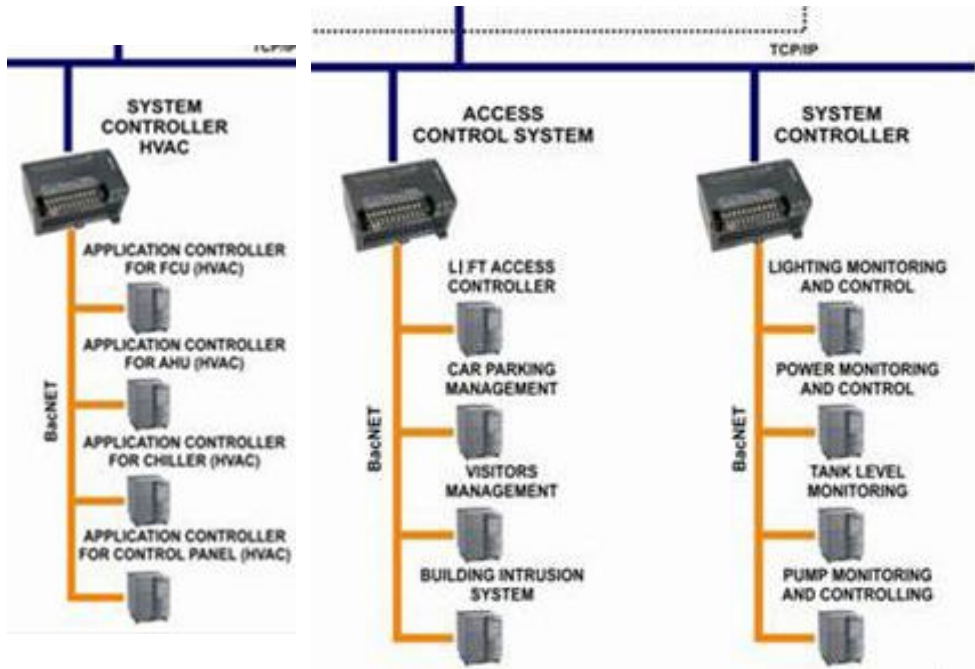


FACS



MMSpecials Products

Access Control & Monitoring System – Utilizes serial communications networks.



Readers and Controllers

Typical cable constructions

- Twisted pairs
- 1 or 2 pairs
- Overall, pairs shielding or both ISOS.
- 16~24 AWG

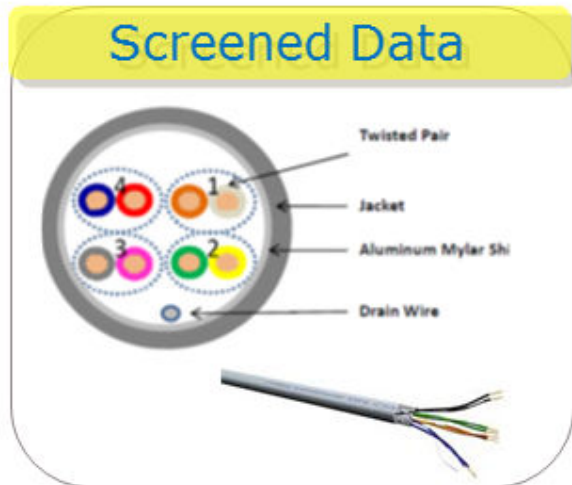


Biometric Time Attendance



Proximity Card

MMSpecials Products



Product range of screened data cables used primarily for monitoring, control and signaling purposes.

Our screened data cables ranges from the UL 2464 , RS 485 to Profibus. These cables provides good screening properties to enable uninterrupted transmissions and are critical for functions in an Airport for access systems, handling & control systems etc...

Premium Screened Data Cables Used

- UL 2464 LSZH – Overall screened, stranded tinned copper conductors, LSZH sheathed.
- EIA (RS) 485 LSZH – Overall screened, stranded tinned copper conductors, Overall braid, LSZH sheathed.
- UL 2919 LSZH – Individually screened, overall shield stranded copper tinned conductors, LSZH sheathed. (High EMS environment)

Key properties

- Multi pairs or cores available.
- High screening of 85% or higher.
- LSZH – Low Smoke Zero Halogen with Flame retardant properties.
- Drum packing – In 500m to reduce wastages and yet easier for transportation and installing.

MMSpecials Products

BMS most commonly used type of communications network

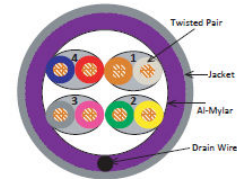
	Serial Link Communications Network		
Specifications	RS-232	RS-422	RS-485
Mode of Operation	Single-Ended	Differential	Differential
Total No. of Drivers and Receivers on one line	1 Driver / 1 Receiver	1 Driver / 10 Receiver	32 Driver (only 1 active at a time) / 32 Receiver
Maximum Cable Length	50 ft (15m)	4000 ft (1200m)	4000 ft (1200m)
Maximum Data Rate (at max cable length)	100 kbit/s	10 Mbit/s - 40ft 100kbit/s - 4000ft	10 Mbit/s - 40ft 100kbit/s - 4000ft
Typical Cable Type used	UL 2464	UL 2464	TIA (RS) 485, Cat 5e F/UTP, UL 2919 (for extended distance up to 1800m)
Max Operating Voltage Range	± 25 V	±15 V	±15 V

Products Overview – MMSpecials

More than 120 part numbers of relevant cable types.

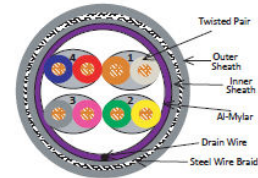
UL 2464 Overall Screen 16-24AWG
PVC

Overall Screened Data Control Cable



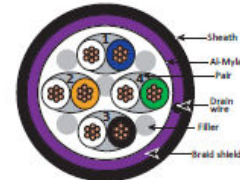
UL 2464 OVERALL SCREEN 16-24AWG
SWB LSZH

Overall Screened Data Control Cable, Armoured



EIA-485 22 & 24AWG LSZH

Serial Data Communication Cable



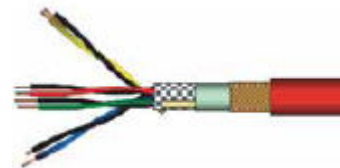
EIA-485 22&24 AWG SWB LSZH

Serial Data Communication Cable, Armoured



IE Firetuf™ DATA 1P, 2P or 4P
LSZH-FR

IE SF/UTP 4x2xAWG22/1 cable with circuit integrity behaviour



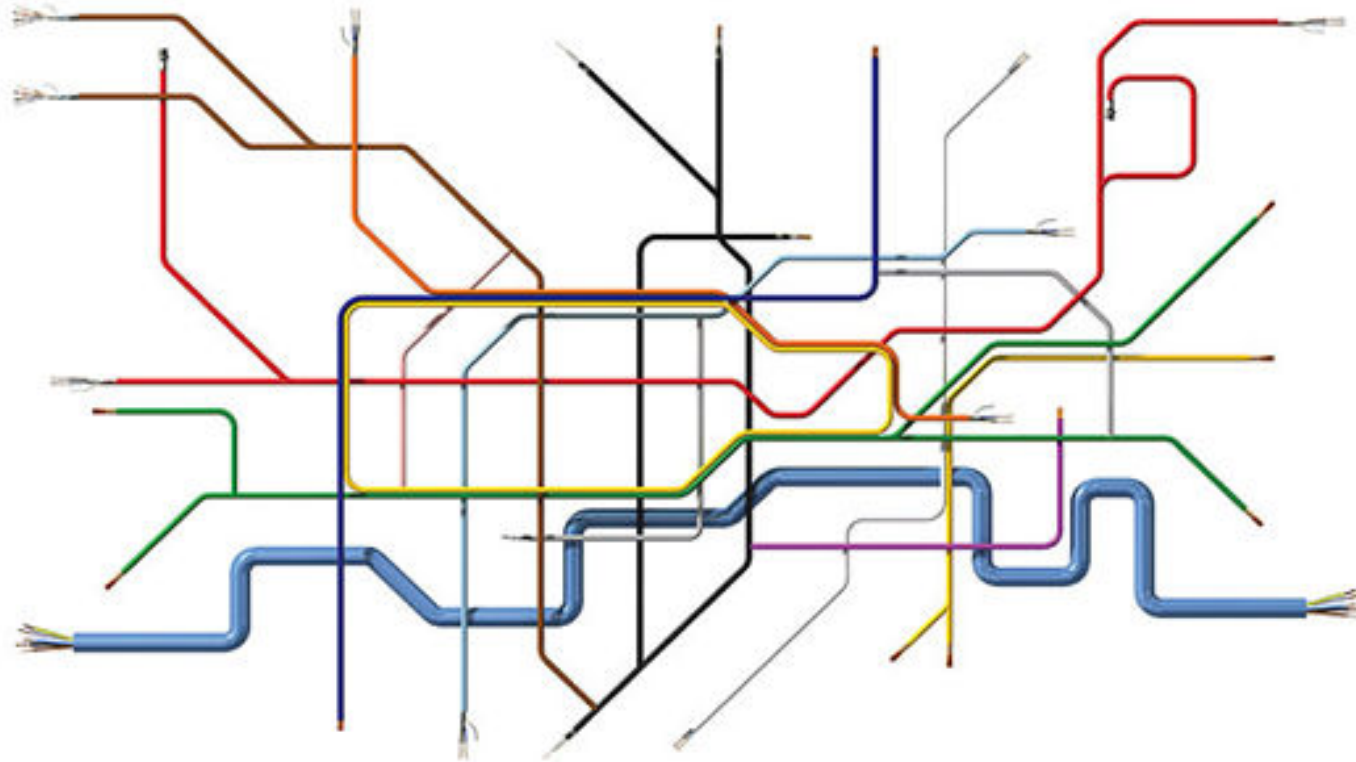
Products Overview – MMSpecials

Using Draka Multimedia Solutions cabling products comprising both copper and fiber to support voice, data and video transmissions in mission critical applications.



Products Overview – MMSpecials

One brand. Multiple cables lines



You can always count on DRAKA to have high quality multimedia solutions range of cables to suit your project's vast communication cables needs. Draka Multimedia Solutions portfolio provides a full structured cabling solutions, cablings for building management systems, full audio and broadcasting cablings and mobile networks cables to ensure that you have a one stop multimedia cables manufacturer. So always specify Draka, your fastest route to the right cable solution.



Worldwide References and Applications

Worldwide References & Applications

Due to the strong branding and presence of Draka Multimedia Solutions ie FO cables, Copper Data Cables etc, Draka UC is used together widely in all industry applications from Datacenters, bank offices, institutions, commercial buildings, hospitals , airports to residential estates and industrial projects.

Critical operations in Data Centers



Worldwide References & Applications

DRAKA UC – Awarded the Global Data Centers Structured Cabling supply contract from Alibaba Group, 2016-2017



In 2016, Draka UC has been supplied to more than 30 DCs projects in China, & ie Australia, Singapore, Hong Kong



Worldwide References & Applications

Diverse Projects from Commercial to Institutions and Hospitals



Worldwide References & Applications

The only Datacom brand capable to supply to ANY types of projects nature.



Worldwide References & Applications

Prysmian Group cables are widely used in some of the finest airports in the world especially new airports requiring stringent transmission standards, safety and reliability. Draka Multimedia Solution Cables which include the full Structured Cabling Solution are also widely used in world renowned airports.



And Many More References World Wide !

**Leading Technologies &
Manufacturing Footprint give us
the Competitive Edge**

Leading Technologies

ColorLock^{XS}

- Coating method used for permanent color embedding in the fibre coating, which allows for quicker and easier installation
- Color is integrated in fibre coating, instead of applied to the outside of the coated fibre
 - Coloring achieved by adding color components to the secondary layer of the acrylate coating during the fibre manufacturing process
 - Method for coloring the fibre is more durable than other technologies



BendBright^{XS} (G.657.A2/B2)

- Combines two attractive features: true bend insensitivity and backward compatibility with existing single-mode fibres and loose tube cables
- Ideal for a wide variety of applications, including end-to-end FTTH network roll-outs
- Excellent bending properties and reduced diameter allow for compact installations, leading to significant reduction of Total Cost of Ownership (TCO)



Leading Technologies

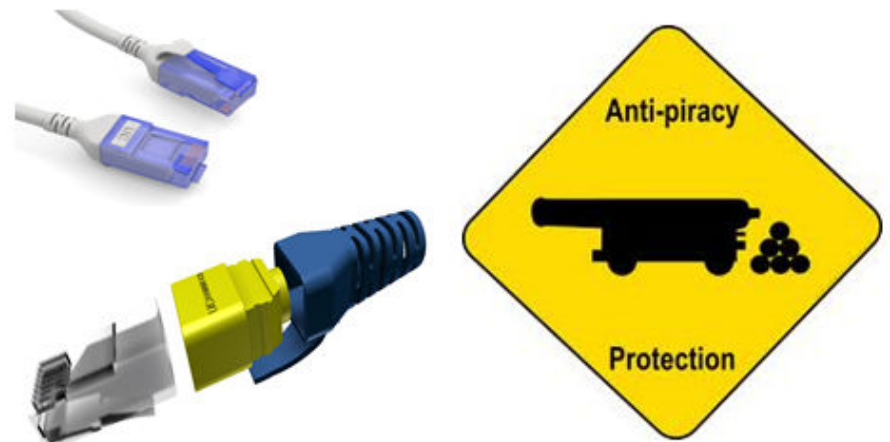
UC Data – Tight Extrusion Process

- Draka unique TEP enables our cables to be slimmer in size with compromising on any electrical or installation parameters.
- Slimmer design means easier transportation, more cables on the same cable trays, easier handling in tight environments.
- Tighter design means the pairings of the twisted cables are bundled neatly and firmly to prevent loose pairings during harsh installations, esp across rooms.



UC Products - Technology

- Our SLIMFLEX copper patch cord is slimmest in the market with OD < 4mm vs normal > 5mm.
- SLIMFLEX Cat 6a SFTP 30 awg new developed !
- DUALBOOT copper patch cord uses a special design dual boot structure to ensure excellent headroom and rough installations.
- Our light weight panels are > 30% lighter enabling installations ease and easier storage.
- Confidential anti copying measures to prevent market copies.



Leading Technologies

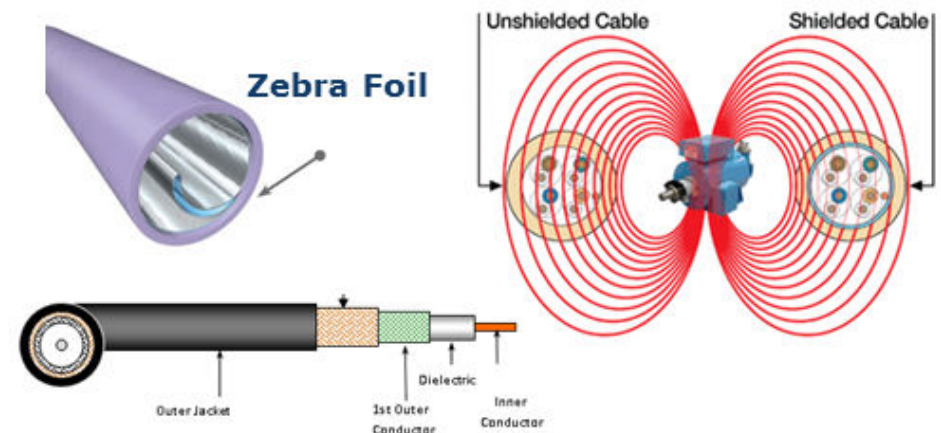
UC Products – Designed for Ease

- Our keystones are designed for the most convenient termination methods possible.
- TOOLFAST keystones utilizes a unique multi-steps tool for fast termination up to 40% speed efficiency.
- TOOLFAST shielded keystones are electrically shielded via electrolysis in the highest quality possible , and are 50% lighter than usual die cast keystones.
- EASECONNECT keystones employ one clip termination via its special in-built wire termination for almost instant termination.



Highly Shielding Properties

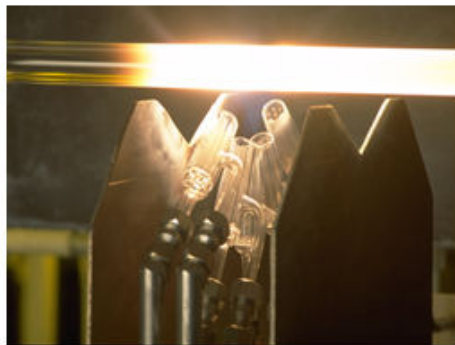
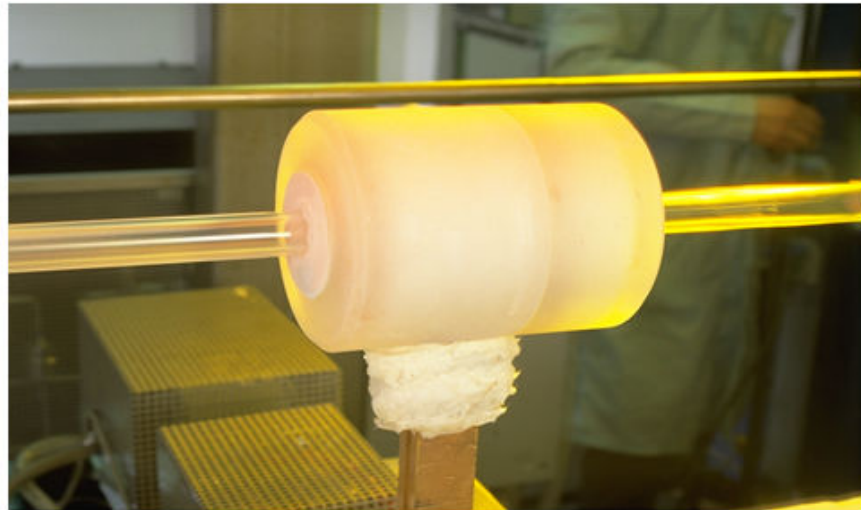
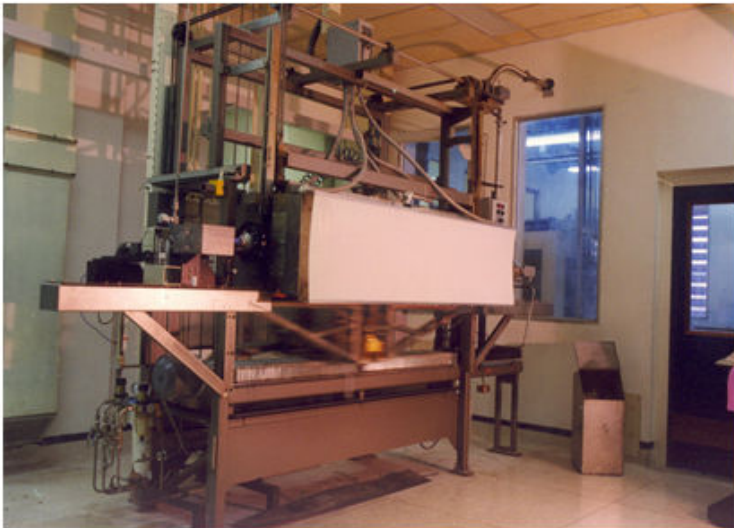
- Our leading technology in providing excellent shielding properties to our cables makes our cables highly resistance to even extensive Electromagnetic Interferences.
- Unique patented 2 pairs foil (Zebra) for our Category Cables.
- 95% shielding for our premium coaxial cables.
- High shield protection for our data control cables, ie UL 2464 / EIA 485 / UL 2919 etc...
- Grade A copper and aluminum shielding materials used with unique wrapping methods.



Leading Technologies

World's only Patented Fibre Manufacturing Process

Patented – Plasma Vapor Activated Chemical Deposition Process



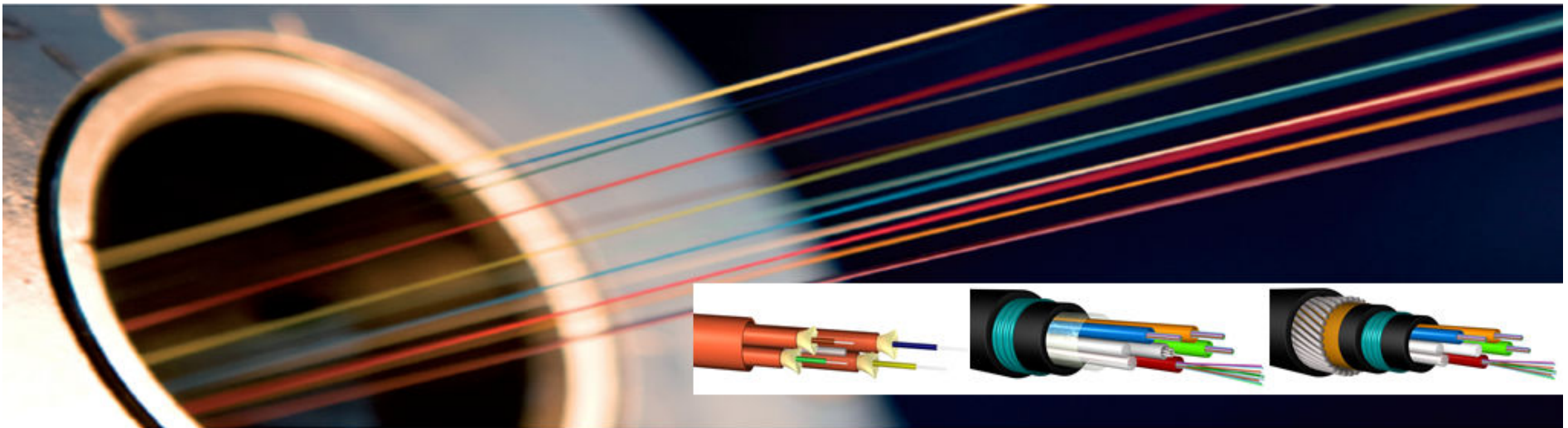
- The only technology in fibre preform manufacturing to utilize **PLASMA** for excellent fibre performances.
- Recognized as the World's best process in producing the most **accurate refractive Index** fibre, with strong process controllability.
- **Strong fibre properties** able to function in the harshest environment, high temperature and high humidity, bending stress.

Leading Technologies

UC^{FIBRE} Cable Portfolio

It is the highly accurate process of Draka's plasma-activated deposition (PCVD) that makes our optical fibres exceptionally proven for future requirements.

These unique fibres are applied to all fibre optic cables of series UCFIBRE®



Our UCFibre® series provides a complete range of fibre optics cables suitable for use in all environments. PVC / PE / LSZH / SWA / SWB / PA / PUR / AT / AR

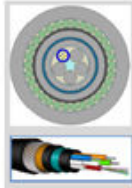
Leading Technologies

UC^{FIBRE} Cable – Complete Range

UC^{FIBRE} LTFPSPNWM SERIES

2-96 Core Loose Tube, Heavy Armoured, Nylon, LSZH

- FEATURES**
- Central strength member (glass fibre reinforced plastic material) (FRP) with PE coating when needed
 - Tube: Thermoplastic material, containing up to 12 optical fibres and filled with a suitable water tightness compound
 - Shielding: The required number of elements (fibres or filars) are 12 arranged around the central strength member
 - Core Winding: anti-static tape (poly-ester)
 - Inner Sheath: HDPE or LSZH
 - Inner Armour: Corrugated steel tape
 - Middle Sheath: HDPE or LSZH
 - Nylon sheath: Black Nylon Polyamide 12 (PA 12)
 - Outer Armour: Galvanized steel wire, 40 Jals Max, wrapped with cotton tape
 - Outer Sheath: LSZH Flame Retarded to IEC 61034-3C
 - Suitable for Direct Buried, Subsea/Terraced/Chemical environment, LSZH to IEC 61034 & 60754-1&2



Overview
One of the most robust and heaviest UC fibre cable that is widely used in the demanding Oil and Gas environment for outdoor applications.

Additional Options
Steel Wire Braiding for seismic wires
Anti-Rust & Tartrate inhibitors

Main characteristics

Test	Standard	Value	Sanction*
Max. installation tension	IEC 60794-1-2-E1	4000 N	No visible fibre strain, $\Delta\alpha \leq 0.01$ dB
Crush	IEC 60794-1-2-E3	4000 N / 100mm	$\Delta\alpha \leq 1.2$ dB(MM), 0.5 dB (SM)

UC^{FIBRE} LTZSM SERIES

13-96 Core Loose Tube, Light Armoured, LSZH

- FEATURES**
- Central strength member: steel wire with plastic coating if needed
 - Tube: Thermoplastic material, containing up to 12 optical fibres and filled with a suitable water tightness compound
 - Shielding: The required number of elements (fibres or filars) are 12 arranged around the central strength member
 - Longitudinal Water Tightness: 40 Jals and water blocking yarn (optional jals free)
 - Armour: Corrugated steel tape
 - Outer Sheath: LSZH IEC 61034, IEC 60754-1&2
 - Suitable for Direct Buried or Indoor/Outdoor Installation



Overview
LTZSM fibre is one of the most value for cost of fibre cables which is widely used in outdoor into indoor application with protection against harsh elements in water / oil / hydrocarbon stress, while ensuring safety for electrical and IT plants.

Additional Options
PE Sheath (LTZSP Series)
Steel Wire Braiding
Anti-Rust/Tartrate inhibitors

Main characteristics

Test	Standard	Value	Sanction*
Max. installation tension	IEC 60794-1-2-E1	4000 N	No strain (LSZH), no visible fibre strain
Crush (short term)	IEC 60794-1-2-E3	3400 N / 100mm	$\Delta\alpha \leq 1.2$ dB(MM), 0.5 dB (SM)
Temperature range	IEC 60794-1-2-F1	-20 to +70°C	$\Delta\alpha \leq 1.2$ dB(MM), 0.5 dB (SM)
Water Resistance	IEC 60794-1-2-E3	40 Jals	No water leakage after 24 hrs

UC^{FIBRE} UTM SERIES

2-12 Core Unibundle, Light Armoured, LSZH

- FEATURES**
- Sheath: Thermoplastic material, containing up to 12 fibres and filled with a suitable water tightness compound
 - Perifurcated Strength Elements: Aramid yarns
 - Armour: Corrugated steel tape
 - Outer Sheath: LSZH in accordance to IEC 61034, IEC 60754-1 & 2
 - Suitable for Direct Buried and Outdoor Installations



Overview
UTM series is provided robust construction and provides flexible bending radius for data centre applications, mechanical protection in demanding installation environments, oil, hydrocarbon, outdoor building facilities.

Additional Options
PE Sheath (UTM Series)
Steel Wire Braiding for armoured protection
Anti-Rust/Tartrate inhibitors

Main characteristics

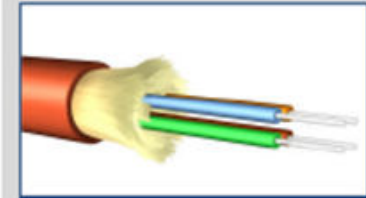
Test	Standard	Value	Sanction*
Maximum installation tension	IEC 60794-1-2-E1	2000 N	0% fibre strain
Crush (short term)	IEC 60794-1-2-E3	4000 N	0% fibre strain
Temperature range	IEC 60794-1-2-F1	-20 to +70°C	0% fibre strain
Crush (short term)	IEC 60794-1-2-E3	4000 N / 100mm	$\Delta\alpha \leq 1.2$ dB (SM)

UC^{FIBRE} MT SERIES

2-24 Core, Indoor Tight Buffer Distribution Cable, LSZH

FEATURES

- Tight buffer:** Each fibre is coated to 0.9mm with LSZH.
- Strength Member:** Aramid yarn.
- Outer Sheath:** LSZH compliant to IEC 61034, IEC 60754-1&2, IEC 60332-1-2 & 60332-3-24 for excellent indoor flame retardant safety
- Suitable for Indoor Installation requiring fire performances properties.**



Main characteristics

Test	Standard	Value	Sanction*
Maximum installation load (a few hours)	IEC 60794-1-2-E1	1000 N (2F-8F), 1200N (12F, 24F)	Fibre strain $\leq 0.6\%$, $\Delta\alpha$ reversible
Short term tensile strength. (some days)	IEC 60794-1-2-E1	600N	Fibre strain $\leq 0.4\%$, $\Delta\alpha$ reversible
Max operation tension	IEC 60794-1-2-E1	280N (2F-12F), 340N (24F)	Fibre strain $\leq 0.2\%$, $\Delta\alpha \leq 0.4$ dB(MM), ≤ 0.30 (SM)
Crush (short term)	IEC 60794-1-2-E3	1000 N / 100mm	$\Delta\alpha \leq 0.4$ dB(MM), ≤ 0.30 (SM), no damage
Temperature range	IEC 60794-1-2-F1	-20 to +70°C	$\Delta\alpha \leq 0.6$ dB / km(MM), ≤ 0.40 dB/km(SM)

* values for multi-mode fibres, all optical measurements performed at 1300 nm
values for single-mode fibres, all optical measurements performed at 1550 nm

Overview

One of the most widely used UC Fibre Indoor cable, MT series is excellent for indoor installation that provides a safe setup against flame propagation and its flexible yet robust construction makes installation at ease.

Additional Options

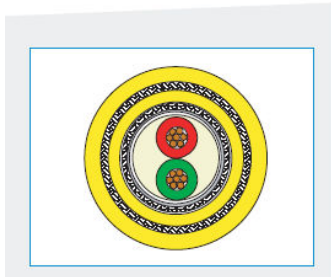
- PVC Sheath
- PE Sheath for outdoor applications
- Steel Wire Braiding for armouring protection.

Leading Technologies

1.2 Foundation Fieldbus

FF FC 1x2xAWG18/7 SWB PVC

FOUNDATION Fieldbus FC FLEX Steel Wire Braid Armoured PVC Cable



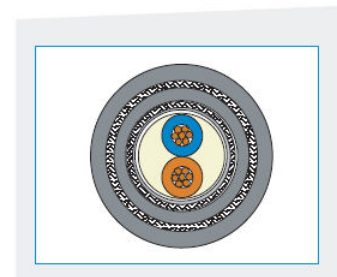
Construction

Conductor	stranded bare copper wires, 7x0.40 Ø 1.2 mm, (cross-section AWG18/7)
Insulation	foam-skin-PE, Ø 2.55 mm
Stranding	two cores gn / rd to the Pair
Bedding	PVC, filling the interstices
Static screen	PET-Al-Foil longitudinally applied
Braid	tinned copper braid, coverage approx. 70%
Sheath	PVC, Ø 8.0 mm
Colour	yellow
Armouring	galvanized steel wire braid, optical coverage 85%, Ø 9.3 mm
Outer sheath	PVC, Ø 12.0 mm
Colour	yellow
Outer Diameter	Nom. 12.0 mm

FF FC 1x2xAWG18/7 SWB LSZH

FOUNDATION Fieldbus FC FLEX Steel Wire Braid Armoured LSZH Cable

1.2 Foundation Fieldbus



Construction

Conductor	stranded bare copper wires, 7x0.40 Ø 1.2 mm, (cross-section AWG18/7)
Insulation	foam-skin-PE, Ø 2.55 mm
Stranding	two cores blue / orange to the pair
Bedding	LSHF, filling the interstices
Static screen	PET-Al-Foil longitudinally applied
Braid	tinned copper braid, coverage approx. 70%
Sheath	LSZH, Ø 8.0 mm
Colour	grey
Armouring	galvanized steel wire braid, optical coverage 85%, Ø 9.3 mm
Outer sheath	LSZH, Ø 12.0 mm
Colour	grey
Outer Diameter	Nom. 12.0 mm

IE ToughCat 7 LSHF-FR MUD

S/FTP Installation Cable 4x2xAWG23/7 for tougher environments



Application

- Generic Data transmission. This cable is a Cat5e S/FTP cable meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

Standards

- EN 50288-2-1
- Det Norske Veritas (DNV) specification No. 6-027-S0-2 and Lloyd Register approval, system, 2002

Fire Rating

- IEC 60332-1, IEC 60332-3-24, IEC 61034-2, IEC 60754-1/2

Chemical Resistance

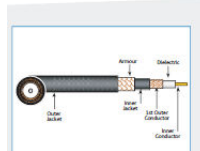
- Mineral oils IRM 902 (IEC60811-2-0) : 7 days/23°C, 4 hours/70°C
- Diesel - IRM 903 (IEC60811-2-1) : 7 days/23°C, 4 hours/70°C

Certification

- This cable is certified by: Det Norske Veritas (DNV) and Lloyd Register

RG12/U 95% Bare Copper Braid LSZH

Coaxial Cable, 75 Ohm, Armoured



Construction

Material	Detail	Inches	mm
Inner Conductor	Bare Copper	0.0642	1.63
Dielectric	Foamed Polyethylene	0.280	7.15
1st Outer Conductor	95% Bare Copper Braid	0.309	7.85
Inner Jacket	Low Smoke Zero Halogen	0.402	10.20
Armour	95% Galvanized Steel Wire	0.463	11.76
Outer Jacket	Low Smoke Zero Halogen	0.535	13.60

Mechanical Specification

EIA-485 22G24 AWG SWB LSZH

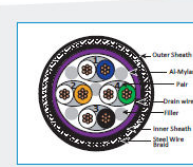
Serial Data Communication Cable, Armoured

31 EIA-485

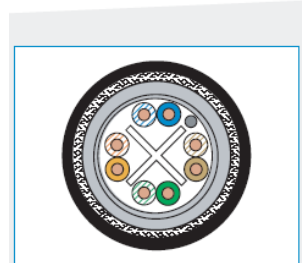
Construction

Conductor	Stranded Tinned Copper
Insulation	HD-PE
Colour	Pair 1: 1 x white, 1 x blue; Pair 2: 1 x white, 1 x orange; Pair 3: 1 x white, 1 x black; Pair 4: 1 x green
1st screen	1 x Al-Mylar Wrap, overlapping >= 25%
Drain wire	Stranded Tinned Copper
Braid Shield	Tinned copper; coverage >= 80%
Inner Sheath	LSZH
Braid Armour	Galvanized Steel Wire Braid; >= 85%
Outer Sheath	LSZH

AWG / Pair	22 / 1P	22 / 2P	22 / 3P	22 / 4P	24 / 1P	24 / 2P	24 / 3P	24 / 4P
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1.4 Industrial Ethernet



UC400 Cat.6 F/UTP SWB LSZH-FR

Category cable for demanding environments

Construction

Conductor	Bare copper wire Ø 0.57 mm (AWG23)
Insulation	PE, Nom. Ø 0.95 mm
Twisting	2 cores to the pair
Overall Screen	Aluminum Polyester Tape
Inner Sheath	Special Flame retardant and halogen free LSZH-FR
Armouring	0.3mm Galvanized Steel Braid, Coverage 80%
Outer Sheath	Black Special Flame retardant and halogen free LSZH-FR
Sheath Colour	Black

1.8 Outside Plant Industrial FO Cables

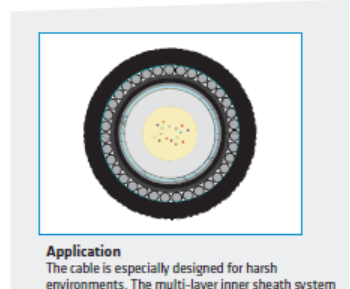
UMNWW

Steel Wire Armoured ALPA™ Uni-tube Optical Cable



Features

- Loose Tube:** The secondary coating consists of a central loose tube made of special thermoplastic plastic. Each fibre in the central tube is uniquely identified by a different colour, for fibre counts above 12 fibres a coloured bundle yarn is used.
- Cable core:** the cable core is covered with water blocking swellable tape.
- Moisture Barrier:** The cable is completely covered with an aluminium foil applied longitudinally with an overlap. The aluminium foil is bonded to the inner sheath.
- 1st Inner sheath:** The 1st inner sheath consists of HDPE (high density polyethylene) (Black) compound. (Two ripcords underneath).
- 2nd Inner Sheath:** The 2nd inner sheath consists of PA.
- Armour:** The armour consists of one layer of galvanized soft steelwires (SWA)
- Outer sheath:** The cable sheath consists of Flame Retardant PVC compound, resistant to UV, Heat & Oil. (Black)



Application

The cable is especially designed for harsh environments. The multi-layer inner sheath system

Most flexible design competency and manufacturing capabilities!

Manufacturing Footprint

EUROPE CENTRIC but expanding in Asia to provide doorsteps production and support.



Brondby, Denmark
UC FIBRE



Washington UK
UC DATA &
CONNECT



Nuremberg, DE
UC DATA



Barcelona, ES
UC FIBRE & DATA



Sorocaba, BR
UC DATA



Presov, Slovakia
UC DATA



Singapore, SG
Logistics Hub APAC



China
UC FIBRE &
CONNECT



Taiwan
UC Data & CONNECT

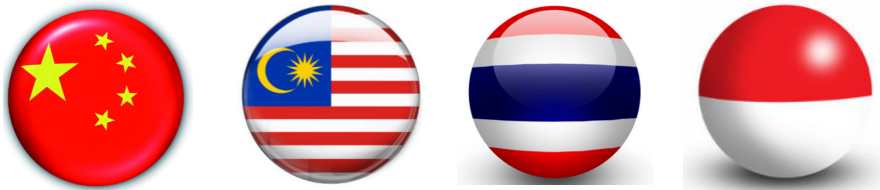
Our Presence in Asia Pacific

Utilizing our global manufacturing footprint to serve the APAC region. We have more than 20 factories globally to support the datacom cables manufacturing.

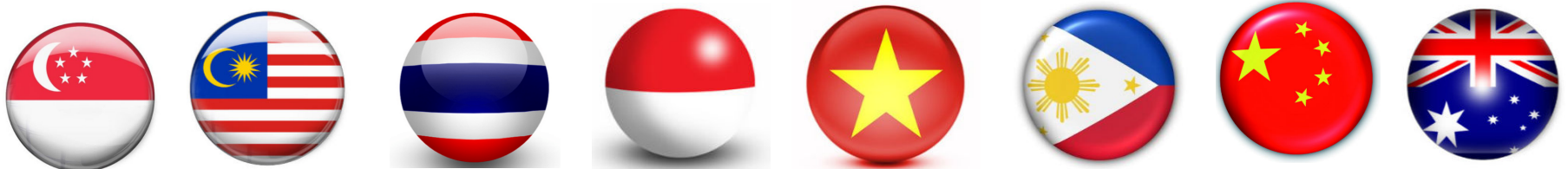
Main Datacom Products - Manufacturing



RE-works – Customization



Entities in APAC

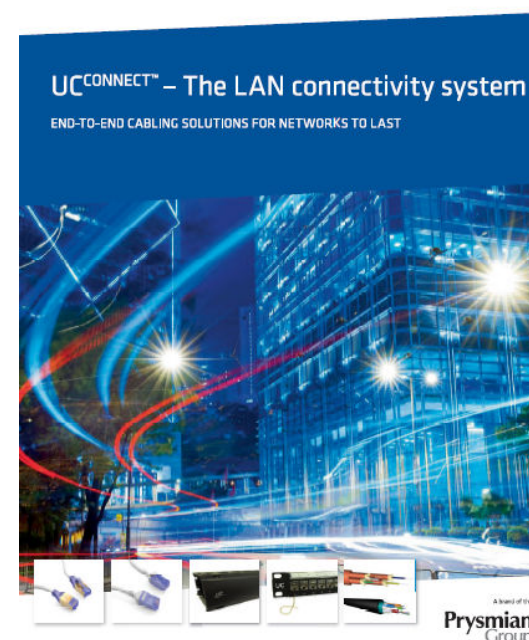


**A brand with complete
communications cabling portfolio**

A Complete range of Comms Cablings

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DATACOM Range



A Complete range of Comms Cablings

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A Complete range of Comms Cablings

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END-TO-END CABLING SOLUTIONS FOR NETWORKS TO LAST

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Multimedia Solutions
UC^{CONNECT}® E-NEWS ref 161

New Launch of MMS E-NEWS Platform!

From the World's largest cable Brand, be connected to us! DRAKA Multimedia Solutions (MMS) provides a full communication cabling products portfolio to all our business partners, including now the DRAKA UC structured cabling portfolio, which has gained dramatic growth in the market, thanks to the recognition of our already strong presence and products technologies.

With this e-news platform, we are able to connect you to interesting information beneficial to your business, learn about what we have to offer, and many more. And even get to win in our monthly lucky draw for our dedicated subscribers!

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With more than a 100 years of history, Draka has established itself as an extraordinary brand of quality and reliability. Draka range of Multimedia Solutions products are widely used globally providing safe and reliable networks connections to ensure smooth data transmission.

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Prysmian
Group

**For further enquiries, please email to
mms.asia@prysmiangroup.com**

End