INSTRUMENTATION & CONTROL CABLES

Linking the Oil & Gas Industry From End To End

prysmian

The planet's pathways

Connecting people and businesses everywhere

150
Years of Experience

+50
Countries

33k
Employees

+15B
Sales in Euros

Sustainability-driven innovation to lead the energy transition and digital transformation

With a legacy spanning over 150 years, Prysmian is a global leader in energy and telecom cable solutions, driving innovation and sustainability. In 2023, we achieved over €15 billion in sales, supported by our 33,000 employees, 82 manufacturing plants, and operations in more than 50 countries worldwide.

We offer the broadest range of cutting-edge products, services, and technologies tailored to meet the evolving needs of our customers. From enabling the energy transition with our pioneering E-Path sustainable cable solution, to supporting critical telecom infrastructure, Prysmian plays a pivotal role in building resilient and efficient systems across the globe.

Our commitment to work closely with our customers ensures that we deliver solutions to help them expand energy and telecom networks, achieving sustainable, profitable growth while addressing the challenges of a rapidly changing world. Together, we're shaping the future of connectivity and electrification.

Our world-leading cable solutions

Transmission

- Submarine power and telecom systems
- Marine installation through inhouse fleet
- Underground interconnectors up to 525kV DC
- Complete solutions provider:
  - Turn-key execution approach
  - Continuous monitoring
  - Post-installation maintenance

Power Grid

- HV/EHV AC systems supply and installation
- MV and HV/EHV Network Components (NWC) up to 500kV
- Power Distribution cables' solutions from LV to MV (and up to 69kV)
- Data-driven permanent monitoring systems for power networks

Electrification

- Renewables
- Specialties & OEM
  - (Railway, Marine, Crane, Mining, Nuclear, Rolling Stock, Defence, Electro medical, other infrastructure)
- Data Centres
- Energy Storage Systems
- OGP Onshore/Offshore & SURF
- Elevators
- Other Industrial
- Residential, Hospitals & Commercial constructions

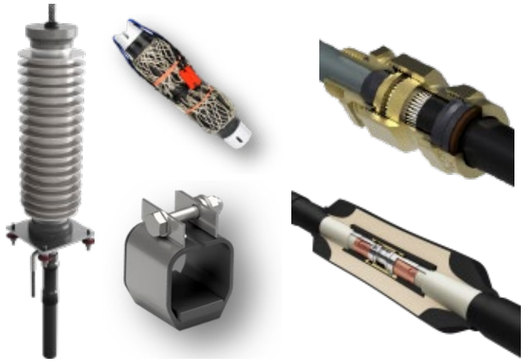
Digital Solutions

- Commercial Buildings
  - Passive Optical Cabling
  - Structured Cabling System
  - Building Management
- Data Centre
- Mission Critical and Harsh Environment
- Broadcast and Studio
- Marine & Shipboard

Network components

Empowering Reliable Grids with Comprehensive Network Components

We go beyond cables to deliver complete solutions for your transmission and distribution needs. Our extensive portfolio of network components and accessories—including joints, terminations, connectors, and glands—ensures seamless integration with power systems, whether for new installations or upgrades to existing grids. Engineered to the highest standards, our components provide reliability, safety, and performance, supporting utilities in building efficient and robust power networks.



We offer tailored solutions across all voltage classes, including innovative designs for optical fiber integration and asset monitoring systems, reflecting our commitment to sustainability and innovation. Our advanced technologies, such as pre-expanded and cold-shrink options, enable faster, easier installations, reducing downtime and ensuring operational excellence.

Backed by Prysmian's global reach and local expertise, we provide dedicated engineering support and customized designs to meet specific project needs. Together, let's build the future of power systems with network components that are as reliable and innovative as our cables.

Asset monitoring & systems

PRY-CAM

Advanced Sensing Solutions for Proactive Asset Management

Prysmian's Electronic and Optical Sensing Solutions (EOSS) are at the forefront of system integrity monitoring, offering cutting-edge tools to safeguard your critical assets. Our comprehensive platform integrates partial discharge (PD) detection, distributed temperature sensing (DTS), and distributed acoustic sensing (DAS) to provide real-time insights into your system's health. With Pry-Cam solutions for both portable, spot analysis and permanent installation for continuous monitoring, you hold the power to act proactively, ensuring safety, reliability, and costefficiency.

Our systems deliver precise data on temperature variations, partial discharge activity, and acoustic anomalies, enabling informed decision-making to prevent costly repairs or unplanned downtime. Scalable and flexible, the modular design adapts to your evolving needs, while user-friendly interfaces streamline monitoring and analysis.

With EOSS, Prysmian elevates monitoring from reactive to preventive, helping utilities and industries achieve enhanced operational reliability. Discover how EOSS and Pry-Cam can transform your approach to asset management, ensuring the safety and longevity

Prysmian in the region

Prysmian operates extensively across the Asia Pacific region, supported by a robust infrastructure that includes 13 manufacturing plants across China, Malaysia, Indonesia, the Philippines, and Thailand. Our regional distribution center in Singapore serves as a strategic hub, ensuring seamless delivery of cutting-edge cable solutions for the energy, infrastructure, and telecom markets.

In Asia Pacific, Prysmian is proud to be a part of landmark projects that showcase our expertise and commitment to innovation. These include addressing the complex cable requirements of iconic developments like Marina Bay Sands in Singapore and supporting the ambitious South Vietnam submarine cable projects, which strengthen regional connectivity. Additionally, Prysmian's advanced solutions have contributed to offshore wind farm developments, highlighting our pivotal role in accelerating the region's transition to renewable energy.

With a clear focus on sustainability and a strong local presence, Prysmian is well-positioned to meet the demands of Asia Pacific's rapidly growing markets. We remain dedicated to delivering innovative technologies that empower our partners and drive the region's progress towards a more connected and

Our corporate brand

Prysmian has a multi-brand architecture made of three levels: a strong Corporate Brand, Prysmian, which stands for the whole organization. It is the umbrella brand under which all the initiatives regarding the Company worldwide are carried out.

The second level is represented by the three well-known Commercial Brands: Prysmian, Draka and General Cable.

The third level encompasses the wide range of product brands that serve all the markets and applications in which the Company operates.

Content

Page

Content

Page

Identification codes

Cable constructions

Cable Type

Blank	Common Instrumentation & Control cables
F~	Fieldbus cables
T~	Thermocouple cables

Types of Conductor

Blank	Plain annealed copper
T	Tinned annealed copper
Ex	Thermocouple extension type-E element +ve: Chromel (Nickel Chromium) -ve: Constantan (Copper Nickel)
Jx	Thermocouple extension type-J element +ve: Iron -ve: Constantan (Copper Nickel)
Kx	Thermocouple extension type-K element +ve: Chromel (Nickel Chromium) -ve: Alumel (Nickel Aluminium)
Kb	Thermocouple compensating type-K element +ve: Copper -ve: Constantan (Copper Nickel)

Types of Insulation

E	Polyethylene (PE) compound
X	Crosslinked Polyethylene (XLPE) compound
MX	Fire proof layer with Crosslinked Polyethylene (XLPE) compound
P	Polyvinyl Chloride (PVC) compound
Z	Ethylene Propylene Rubber (EPR) compound
MZ	Fire proof layer with Ethylene Propylene Rubber (EPR) compound
V	Crosslinked Low Smoke Halogen Free (XLEVA) compound
MV	Fire proof layer with Crosslinked Low Smoke Halogen Free (XLEVA) compound

Types of Bedding/Sheath

H	High Density Polyethylene (HDPE) compound
D	Flame retardant High Density Polyethylene (HDPE-FR) compound
P	Polyvinyl Chloride (PVC) compound
F	Flame retardant Polyvinyl Chloride (PVC-FR) compound
L	Low Smoke Halogen Free (LSHF) compound
Lo	Crosslinked Low Smoke Halogen Free compound (Oil resistant)
N	Polyamide, Nylon (PA) compound
Q	Thermoplastic Rubber (TPR) compound
Y	Lead sheath
@	Multilayer sheath – ALUPAC construction

Types of Screening

I	Individual aluminium foil screened with drain wire, Overall aluminium foil screened with drain wire
(I)	Individual aluminium foil screened with drain wire
O	Overall aluminium foil screened with drain wire
(L)	Laminated aluminium screen with drain wire
O(C)	Overall aluminium foil screened in contact with plain copper wire braid screen
O(T)	Overall aluminium foil screened in contact with tinned copper wire braid screen

Types of Armour

A	Round aluminium wire armour
B	Galvanized steel wire braid
B+E	Galvanized steel wire braid with insertion of earth lead
C	Plain annealed copper wire braid
ct	Plain copper tape armour
dt	Double layers of galvanized steel tape armour
S	Round galvanized steel wire armour
(T)	Tinned annealed copper wire braid
da	Double layers of aluminium tape armour
W	Bronze wire braid
(W)	Tinned bronze wire braid

Types of Additives

-t	Anti-termite additive
-r	Anti-rodent additive
-u	Ultra-violet (UV) stabilizer
-tr	Anti-termite + Anti-rodent additives
-tu	Anti-termite + UV stabilizer additives
-ru	Anti-rodent + UV stabilizer additives
-tru	Anti-termite + Anti-rodent + UV stabilizer additives

Identification Codes

Colour coding

For Core Cables	
Single core	Brown or Blue
2-core	Brown, Blue
3-core	Brown, Black, Grey
4-core	Brown, Black, Grey, Blue
5-core	Brown, Black, Grey, Blue, Green/Yellow
Multicore	Black with core numbering

For Pair Cables	
1-pair	Black and White
Multipair	Black and White with pair numbering

For Triad Cables	
1-triad	Black, White and Red
Multitriad	Black, White and Red with triad numbering

For Quad Cables	
1-triad	Black, Blue, Green and Brown
Multitriad	Black, Blue, Green and Brown with quad numbering

Symbols

Cable Characteristics

Fire behavior

Flame retardant to
IEC 60332-1
IEC 60332-3-22
IEC 60332-3-24

Fire resistant to
IEC 60331
BS 6387
SS 299

Low smoke & toxic gases to
IEC 61034
IEC 60754-1
IEC 60754-2

Laying conditions

Permissible minimum and maximum ambient temperature during cable installation

Free air

Direct buried

Bending radius

Minimum bending radius during cable installation

Lead free

Cable mechanical resistance to impacts

Chemical resistance

Outer sheath chemical resistance to chemicals

Mechanical Impact

Cable mechanical resistance to impacts

Part 1: Instrumentation Cables Flame Retardant Range

Application for Flame Retardant Instrumentation Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.00 36.72	 24.50 24.99	 18.10 18.46	 12.10 12.34	 7.41 7.56
Max. Conductor Resistance (Tinned) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.70 37.43	 24.80 25.30	 18.20 18.56	 12.20 12.44	 7.56 7.71
Min. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000	 10 1000	 10 1000
Max. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct
buried

Pb

Non-armoured Overall Screened, Flame Retardant Instrumentation Cables

PE/OSCR/PVC-FR, XLPE/OSCR/PVC-FR
PE/OSCR/LSHF, XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	0.9	6.5	50	52	7	2000	800
2PR x 0.5	0.44	1.0	9.5	100	76	14	2000	900
5PR x 0.5	0.44	1.0	11.9	160	95	35	2000	1100
10PR x 0.5	0.44	1.2	16.9	290	135	70	2000	1400
20PR x 0.5	0.44	1.3	22.0	490	176	140	2000	1600
1PR x 0.75	0.44	0.9	6.9	60	55	10	2000	800
2PR x 0.75	0.44	1.0	10.1	110	81	21	2000	900
5PR x 0.75	0.44	1.1	12.9	200	103	52	2000	1100
10PR x 0.75	0.44	1.2	18.0	350	144	105	2000	1400
20PR x 0.75	0.44	1.4	23.8	620	190	210	2000	1700
1PR x 1.0	0.44	0.9	7.3	70	58	14	2000	800
2PR x 1.0	0.44	1.0	10.7	130	86	28	2000	1000
5PR x 1.0	0.44	1.1	13.7	230	110	70	2000	1200
10PR x 1.0	0.44	1.3	19.4	430	155	140	2000	1400
20PR x 1.0	0.44	1.4	25.4	750	203	280	2000	1800
1PR x 1.5	0.44	0.9	7.8	80	62	21	2000	900
2PR x 1.5	0.44	1.0	11.5	160	92	42	2000	1000
5PR x 1.5	0.44	1.1	14.9	290	119	105	2000	1300
10PR x 1.5	0.44	1.3	21.5	550	172	210	2000	1600
20PR x 1.5	0.44	1.5	27.9	990	223	420	2000	1900
1PR x 2.5	0.53	1.0	9.2	110	74	35	2000	900
2PR x 2.5	0.53	1.1	13.8	230	110	70	2000	1200
5PR x 2.5	0.53	1.3	18.1	440	145	175	2000	1400
10PR x 2.5	0.53	1.5	26.0	830	208	350	2000	1900
20PR x 2.5	0.53	1.8	33.9	1520	271	700	1300	1900

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	0.9	6.9	60	55	10	2000	800
2TR x 0.5	0.44	1.0	10.5	120	84	21	2000	1000
5TR x 0.5	0.44	1.1	13.5	220	108	52	2000	1200
10TR x 0.5	0.44	1.3	19.1	400	153	105	2000	1400
1TR x 0.75	0.44	0.9	7.3	70	58	15	2000	800
2TR x 0.75	0.44	1.0	11.2	140	90	31	2000	1000
5TR x 0.75	0.44	1.1	14.4	260	115	78	2000	1200
10TR x 0.75	0.44	1.3	20.7	490	166	157	2000	1500
1TR x 1.0	0.44	0.9	7.7	90	62	21	2000	900
2TR x 1.0	0.44	1.0	11.8	170	94	42	2000	1100
5TR x 1.0	0.44	1.1	15.3	310	122	105	2000	1300
10TR x 1.0	0.44	1.3	22.1	590	177	210	2000	1600
1TR x 1.5	0.44	0.9	8.2	100	66	31	2000	900
2TR x 1.5	0.44	1.1	13.1	210	105	63	2000	1200
5TR x 1.5	0.44	1.2	16.9	410	135	157	2000	1400
10TR x 1.5	0.44	1.4	24.3	770	194	315	2000	1700
1TR x 2.5	0.53	1.0	9.8	150	78	52	2000	900
2TR x 2.5	0.53	1.2	15.6	310	125	105	2000	1300
5TR x 2.5	0.53	1.3	20.5	610	164	262	2000	1400
10TR x 2.5	0.53	1.6	29.4	1170	235	525	1700	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	0.9	7.4	80	59	14	2000	800
2QD x 0.5	0.44	1.1	13.0	160	104	28	2000	1200
5QD x 0.5	0.44	1.2	16.8	290	134	70	2000	1400
10QD x 0.5	0.44	1.4	24.2	530	194	140	2000	1700
1QD x 0.75	0.44	0.9	7.9	90	63	21	2000	900
2QD x 0.75	0.44	1.1	13.9	190	111	42	2000	1200
5QD x 0.75	0.44	1.2	18.0	350	144	105	2000	1400
10QD x 0.75	0.44	1.5	26.1	660	209	210	2000	1900
1QD x 1.0	0.44	0.9	8.3	100	66	28	2000	900
2QD x 1.0	0.44	1.1	14.7	220	118	56	2000	1300
5QD x 1.0	0.44	1.3	19.4	430	155	140	2000	1400
10QD x 1.0	0.44	1.5	27.9	800	223	280	2000	1900
1QD x 1.5	0.44	1.0	9.2	130	74	42	2000	900
2QD x 1.5	0.44	1.2	16.2	280	130	84	2000	1400
5QD x 1.5	0.44	1.3	21.4	540	171	210	2000	1500
10QD x 1.5	0.44	1.6	30.7	1040	246	420	1900	2240
1QD x 2.5	0.53	1.0	10.7	180	86	70	2000	1000
2QD x 2.5	0.53	1.3	19.4	400	155	140	2000	1400
5QD x 2.5	0.53	1.5	25.9	820	207	350	2000	1900
10QD x 2.5	0.53	1.9	37.3	1590	298	700	1200	2000

Non-armoured Individual & Overall Screened, Flame Retardant Instrumentation Cables

PE/ISOS/PVC-FR, XLPE/ISOS/PVC-FR
PE/ISOS/LSHF, XLPE/ISOS/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	1.0	10.6	120	85	14	2000	1000
5PR x 0.5	0.44	1.1	13.6	220	109	35	2000	1200
10PR x 0.5	0.44	1.3	19.3	400	154	70	2000	1400
20PR x 0.5	0.44	1.4	25.1	690	201	140	2000	1800
2PR x 0.75	0.44	1.0	11.2	140	90	21	2000	1000
5PR x 0.75	0.44	1.1	14.5	250	116	52	2000	1200
10PR x 0.75	0.44	1.3	20.8	460	166	105	2000	1500
20PR x 0.75	0.44	1.5	27.1	830	217	210	2000	1900
2PR x 1.0	0.44	1.0	11.9	160	95	28	2000	1100
5PR x 1.0	0.44	1.2	15.5	300	124	70	2000	1300
10PR x 1.0	0.44	1.4	22.3	550	178	140	2000	1600
20PR x 1.0	0.44	1.6	29.0	980	232	280	2000	2000
2PR x 1.5	0.44	1.1	13.0	190	104	42	2000	1200
5PR x 1.5	0.44	1.2	16.8	360	134	105	2000	1400
10PR x 1.5	0.44	1.4	24.3	670	194	210	2000	1700
20PR x 1.5	0.44	1.7	31.7	1230	254	420	1600	2000
2PR x 2.5	0.53	1.2	15.4	260	123	70	2000	1300
5PR x 2.5	0.53	1.3	20.0	510	160	175	2000	1400
10PR x 2.5	0.53	1.6	29.1	970	233	350	2000	2000
20PR x 2.5	0.53	1.9	38.0	1780	304	700	1100	2000

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	1.0	11.7	150	94	21	2000	1100
5TR x 0.5	0.44	1.1	15.1	270	121	52	2000	1300
10TR x 0.5	0.44	1.3	21.8	500	174	105	2000	1600
2TR x 0.75	0.44	1.1	12.6	180	101	31	2000	1100
5TR x 0.75	0.44	1.2	16.3	330	130	78	2000	1400
10TR x 0.75	0.44	1.4	23.4	610	187	157	2000	1600
2TR x 1.0	0.44	1.1	13.3	200	106	42	2000	1200
5TR x 1.0	0.44	1.2	17.3	380	138	105	2000	1400
10TR x 1.0	0.44	1.4	24.9	710	199	210	2000	1800
2TR x 1.5	0.44	1.1	14.4	240	115	63	2000	1200
5TR x 1.5	0.44	1.3	18.9	480	151	157	2000	1400
10TR x 1.5	0.44	1.5	27.3	900	218	315	2000	1900
2TR x 2.5	0.53	1.2	17.1	340	137	105	2000	1400
5TR x 2.5	0.53	1.4	22.8	690	182	262	2000	1600
10TR x 2.5	0.53	1.7	32.7	1320	262	525	1500	2000

Range and Dimensions (Quad)

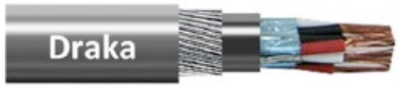
Quad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	1.1	13.6	180	109	28	2000	1200
5QD x 0.5	0.44	1.2	17.6	340	141	70	2000	1400
10QD x 0.5	0.44	1.4	25.3	630	202	140	2000	1800
2QD x 0.75	0.44	1.1	14.4	210	115	42	2000	1200
5QD x 0.75	0.44	1.3	18.9	410	151	105	2000	1400
10QD x 0.75	0.44	1.5	27.3	760	218	210	2000	1900
2QD x 1.0	0.44	1.2	15.5	250	124	56	2000	1300
5QD x 1.0	0.44	1.3	20.1	480	161	140	2000	1400
10QD x 1.0	0.44	1.6	29.2	910	234	280	2000	2000
2QD x 1.5	0.44	1.2	16.8	310	134	84	2000	1400
5QD x 1.5	0.44	1.4	22.4	610	179	210	2000	1600
10QD x 1.5	0.44	1.7	32.0	1170	256	420	1700	2000
2QD x 2.5	0.53	1.3	20.0	430	160	140	2000	1400
5QD x 2.5	0.53	1.5	26.6	880	213	350	2000	1900
10QD x 2.5	0.53	1.9	38.4	1720	307	700	1100	2000

sh: sector shaped conductor

Armoured (SWA) Overall Screened, Flame Retardant Instrumentation Cables

PE/OSCR/PVC/SWA/PVC-FR, XLPE/OSCR/PVC/SWA/PVC-FR
PE/OSCR/LSHF/SWA/LSHF, XLPE/OSCR/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl Chloride, PVC or Low Smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	6.3	0.9	8.1	1.3	10.9	230	109	7	2000	1000
2PR x 0.5	0.44	9.3	0.9	11.0	1.4	14.0	350	140	14	2000	1200
5PR x 0.5	0.44	11.7	0.9	13.5	1.4	16.5	480	165	35	2000	1400
10PR x 0.5	0.44	16.7	1.25	19.1	1.5	22.6	870	226	70	2000	1600
20PR x 0.5	0.44	21.5	1.25	23.9	1.6	27.6	1240	276	140	1600	1700
1PR x 0.75	0.44	6.7	0.9	8.4	1.3	11.2	250	112	10	2000	1000
2PR x 0.75	0.44	9.9	0.9	11.6	1.4	14.6	380	146	21	2000	1200
5PR x 0.75	0.44	12.7	1.25	15.2	1.5	18.4	650	184	52	2000	1400
10PR x 0.75	0.44	17.8	1.25	20.3	1.6	24.0	980	240	105	2000	1700
20PR x 0.75	0.44	23.3	1.25	25.7	1.7	29.6	1450	296	210	1300	1700
1PR x 1.0	0.44	7.1	0.9	8.8	1.3	11.6	260	116	14	2000	1000
2PR x 1.0	0.44	10.5	0.9	12.2	1.4	15.2	410	152	28	2000	1300
5PR x 1.0	0.44	13.5	1.25	16.0	1.5	19.2	710	192	70	2000	1400
10PR x 1.0	0.44	19.2	1.25	21.7	1.6	25.4	1100	254	140	1800	1700
20PR x 1.0	0.44	24.9	1.25	27.3	1.7	31.2	1630	312	280	1200	1700
1PR x 1.5	0.44	7.6	0.9	9.3	1.3	12.1	290	121	21	2000	1100
2PR x 1.5	0.44	11.3	0.9	13.1	1.4	16.1	470	161	42	2000	1400
5PR x 1.5	0.44	14.7	1.25	17.1	1.5	20.6	810	206	105	2000	1500
10PR x 1.5	0.44	21.0	1.25	23.4	1.6	27.1	1290	271	210	1500	1600
20PR x 1.5	0.44	27.4	1.6	30.8	1.8	34.9	2140	349	420	900	1600
1PR x 2.5	0.53	9.0	0.9	10.8	1.4	13.8	360	138	35	2000	1200
2PR x 2.5	0.53	13.6	1.25	16.0	1.5	19.2	710	192	70	2000	1400
5PR x 2.5	0.53	17.7	1.25	20.1	1.6	23.8	1050	238	175	1900	1600
10PR x 2.5	0.53	25.5	1.6	28.6	1.8	32.7	1900	327	350	1000	1600
20PR x 2.5	0.53	33.2	1.6	36.6	1.9	40.9	2900	409	700	600	1600

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	6.7	0.9	8.4	1.3	11.2	250	112	10	2000	1000
2TR x 0.5	0.44	10.3	0.9	12.0	1.4	15.0	410	150	21	2000	1300
5TR x 0.5	0.44	13.3	1.25	15.7	1.5	18.9	690	189	52	2000	1400
10TR x 0.5	0.44	18.7	1.25	21.1	1.6	24.8	1050	248	105	1900	1700
1TR x 0.75	0.44	7.1	0.9	8.8	1.3	11.6	270	116	15	2000	1000
2TR x 0.75	0.44	11.0	0.9	12.7	1.4	15.7	440	157	31	2000	1400
5TR x 0.75	0.44	14.2	1.25	16.6	1.5	19.8	760	198	78	2000	1400
10TR x 0.75	0.44	20.2	1.25	22.7	1.6	26.4	1200	264	157	1600	1700
1TR x 1.0	0.44	7.5	0.9	9.2	1.3	12.0	290	120	21	2000	1100
2TR x 1.0	0.44	11.6	0.9	13.4	1.4	16.4	480	164	42	2000	1400
5TR x 1.0	0.44	15.1	1.25	17.6	1.5	21.1	850	211	105	2000	1500
10TR x 1.0	0.44	21.6	1.25	24.0	1.6	27.7	1340	277	210	1400	1600
1TR x 1.5	0.44	8.0	0.9	9.8	1.3	12.6	320	126	31	2000	1100
2TR x 1.5	0.44	12.9	1.25	15.3	1.5	18.5	670	185	63	2000	1400
5TR x 1.5	0.44	16.7	1.25	19.1	1.5	22.6	990	226	157	2000	1600
10TR x 1.5	0.44	23.8	1.25	26.3	1.7	30.2	1610	302	315	1200	1600
1TR x 2.5	0.53	9.6	0.9	11.3	1.4	14.3	410	143	52	2000	1200
2TR x 2.5	0.53	15.4	1.25	17.8	1.5	21.3	840	213	105	2000	1500
5TR x 2.5	0.53	20.0	1.25	22.5	1.6	26.2	1300	262	262	1500	1600
10TR x 2.5	0.53	28.9	1.6	32.2	1.9	36.5	2400	365	525	800	1600

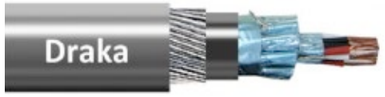
Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	7.2	0.9	9.0	1.3	11.8	280	118	14	2000	1100
2QD x 0.5	0.44	12.8	0.9	14.5	1.4	17.5	500	175	28	2000	1400
5QD x 0.5	0.44	16.6	1.25	19.0	1.5	22.5	860	225	70	2000	1600
10QD x 0.5	0.44	23.7	1.25	26.1	1.7	30.0	1370	300	140	1400	1800
1QD x 0.75	0.44	7.7	0.9	9.4	1.3	12.2	300	122	21	2000	1100
2QD x 0.75	0.44	13.7	1.25	16.1	1.5	19.3	680	193	42	2000	1400
5QD x 0.75	0.44	17.8	1.25	20.2	1.6	23.9	970	239	105	2000	1700
10QD x 0.75	0.44	25.6	1.6	28.8	1.8	32.9	1740	329	210	1100	1700
1QD x 1.0	0.44	8.1	0.9	9.9	1.3	12.7	320	127	28	2000	1100
2QD x 1.0	0.44	14.5	1.25	17.0	1.5	20.5	730	205	56	2000	1400
5QD x 1.0	0.44	19.2	1.25	21.6	1.6	25.3	1100	253	140	1800	1700
10QD x 1.0	0.44	27.4	1.6	30.7	1.8	34.8	1950	348	280	1000	1700
1QD x 1.5	0.44	9.0	0.9	10.7	1.4	13.7	380	137	42	2000	1200
2QD x 1.5	0.44	16.0	1.25	18.5	1.5	22.0	840	220	84	2000	1600
5QD x 1.5	0.44	20.9	1.25	23.4	1.6	27.1	1280	271	210	1500	1600
10QD x 1.5	0.44	30.2	1.6	33.5	1.9	37.8	2340	378	420	800	1700
1QD x 2.5	0.53	10.5	0.9	12.2	1.4	15.2	470	152	70	2000	1300
2QD x 2.5	0.53	19.2	1.25	21.7	1.6	25.4	1080	254	140	1800	1700
5QD x 2.5	0.53	25.4	1.6	28.5	1.8	32.6	1880	326	350	1000	1600
10QD x 2.5	0.53	36.8	1.6	40.1	2.0	44.6	3160	446	700	600	1700

Armoured (SWA) Individual & Overall Screened, Flame Retardant Instrumentation Cables

PE/ISOS/PVC/SWA/PVC-FR, XLPE/ISOS/PVC/SWA/PVC-FR
PE/ISOS/LSHF/SWA/LSHF, XLPE/ISOS/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl Chloride, PVC or Low smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	10.4	0.9	12.1	1.4	15.1	410	151	14	2000	1300
5PR x 0.5	0.44	13.4	1.25	15.8	1.5	19.0	690	190	35	2000	1400
10PR x 0.5	0.44	19.1	1.25	21.5	1.6	25.2	1070	252	70	1800	1700
20PR x 0.5	0.44	24.6	1.25	27.1	1.7	31.0	1560	310	140	1200	1700
2PR x 0.75	0.44	11.0	0.9	12.8	1.4	15.8	440	158	21	2000	1400
5PR x 0.75	0.44	14.3	1.25	16.7	1.5	19.9	750	199	52	2000	1400
10PR x 0.75	0.44	20.3	1.25	22.8	1.6	26.5	1180	265	105	1700	1700
20PR x 0.75	0.44	26.6	1.6	29.7	1.8	33.8	1940	338	210	1000	1700
2PR x 1.0	0.44	11.7	0.9	13.4	1.4	16.4	470	164	28	2000	1400
5PR x 1.0	0.44	15.1	1.25	17.6	1.5	21.1	820	211	70	2000	1500
10PR x 1.0	0.44	21.6	1.25	24.1	1.6	27.8	1290	278	140	1500	1700
20PR x 1.0	0.44	28.5	1.6	31.8	1.8	35.9	2170	359	280	900	1700
2PR x 1.5	0.44	12.8	1.25	15.3	1.5	18.5	650	185	42	2000	1400
5PR x 1.5	0.44	16.6	1.25	19.1	1.6	22.8	940	228	105	2000	1600
10PR x 1.5	0.44	23.8	1.25	26.2	1.7	30.1	1510	301	210	1300	1700
20PR x 1.5	0.44	31.2	1.6	34.6	1.9	38.9	2560	389	420	700	1600
2PR x 2.5	0.53	15.2	1.25	17.7	1.5	21.2	800	212	70	2000	1500
5PR x 2.5	0.53	19.8	1.25	22.3	1.6	26.0	1200	260	175	1600	1600
10PR x 2.5	0.53	28.6	1.6	31.9	1.8	36.0	2180	360	350	900	1700
20PR x 2.5	0.53	37.5	2.0	41.6	2.1	46.3	3720	463	700	500	1700

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	11.5	0.9	13.2	1.4	16.2	460	162	21	2000	1400
5TR x 0.5	0.44	14.9	1.25	17.3	1.5	20.8	790	208	52	2000	1500
10TR x 0.5	0.44	21.3	1.25	23.7	1.6	27.4	1240	274	105	1600	1700
2TR x 0.75	0.44	12.4	0.9	14.1	1.4	17.1	510	171	31	2000	1400
5TR x 0.75	0.44	16.1	1.25	18.5	1.5	22.0	890	220	78	2000	1600
10TR x 0.75	0.44	22.9	1.25	25.4	1.7	29.3	1420	293	157	1400	1700
2TR x 1.0	0.44	13.1	1.25	15.6	1.5	18.8	660	188	42	2000	1400
5TR x 1.0	0.44	17.1	1.25	19.5	1.5	23.0	970	230	105	2000	1600
10TR x 1.0	0.44	24.4	1.25	26.8	1.7	30.7	1570	307	210	1200	1700
2TR x 1.5	0.44	14.2	1.25	16.7	1.5	19.9	740	199	63	2000	1400
5TR x 1.5	0.44	18.7	1.25	21.2	1.6	24.9	1140	249	157	1700	1600
10TR x 1.5	0.44	26.8	1.6	29.9	1.8	34.0	2020	340	315	900	1600
2TR x 2.5	0.53	16.9	1.25	19.4	1.6	23.1	940	231	105	2000	1600
5TR x 2.5	0.53	22.3	1.25	24.8	1.7	28.7	1480	287	262	1300	1600
10TR x 2.5	0.53	32.2	1.6	35.6	1.9	39.9	2680	399	525	700	1700

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	13.4	1.25	15.8	1.5	19.0	660	190	28	2000	1400
5QD x 0.5	0.44	17.4	1.25	19.8	1.6	23.5	950	235	70	2000	1700
10QD x 0.5	0.44	24.8	1.25	27.3	1.7	31.2	1510	312	140	1300	1800
2QD x 0.75	0.44	14.2	1.25	16.7	1.5	19.9	710	199	42	2000	1400
5QD x 0.75	0.44	18.7	1.25	21.2	1.6	24.9	1070	249	105	1800	1700
10QD x 0.75	0.44	26.8	1.6	29.9	1.8	34.0	1880	340	210	1000	1700
2QD x 1.0	0.44	15.1	1.25	17.5	1.5	21.0	780	210	56	2000	1500
5QD x 1.0	0.44	19.9	1.25	22.4	1.6	26.1	1170	261	140	1700	1700
10QD x 1.0	0.44	28.7	1.6	32.1	1.8	36.2	2130	362	280	900	1700
2QD x 1.5	0.44	16.6	1.25	19.1	1.5	22.6	880	226	84	2000	1600
5QD x 1.5	0.44	21.9	1.25	24.3	1.7	28.2	1390	282	210	1400	1700
10QD x 1.5	0.44	31.5	1.6	34.9	1.9	39.2	2510	392	420	800	1800
2QD x 2.5	0.53	19.8	1.25	22.3	1.6	26.0	1130	260	140	1700	1700
5QD x 2.5	0.53	26.1	1.6	29.3	1.8	33.4	1980	334	350	1000	1700
10QD x 2.5	0.53	37.9	2.0	42.1	2.1	46.8	3680	468	700	500	1700

Armoured (SWB) Overall Screened, Flame Retardant Instrumentation Cables

PE/OSCR/PVC/SWB/PVC-FR, XLPE/OSCR/PVC/SWB/PVC-FR
PE/OSCR/LSHF/SWB/LSHF, XLPE/OSCR/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl Chloride, PVC or Low smoke Halogen Free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	6.3	0.3	7.5	1.3	10.3	160	103	7	2000	1000
2PR x 0.5	0.44	9.3	0.3	10.5	1.3	13.3	240	133	14	2000	1200
5PR x 0.5	0.44	11.7	0.3	12.9	1.4	15.9	350	159	35	2000	1400
10PR x 0.5	0.44	16.7	0.3	17.9	1.5	21.4	560	214	70	2000	1500
20PR x 0.5	0.44	21.5	0.4	23.1	1.6	26.8	900	268	140	2000	1900
1PR x 0.75	0.44	6.7	0.3	7.9	1.3	10.7	170	107	10	2000	1000
2PR x 0.75	0.44	9.9	0.3	11.1	1.4	14.1	280	141	21	2000	1200
5PR x 0.75	0.44	12.7	0.3	13.9	1.4	16.9	400	169	52	2000	1400
10PR x 0.75	0.44	17.8	0.3	19.0	1.5	22.5	640	225	105	2000	1600
20PR x 0.75	0.44	23.3	0.4	24.9	1.7	28.8	1070	288	210	1800	1900
1PR x 1.0	0.44	7.1	0.3	8.3	1.3	11.1	190	111	14	2000	1000
2PR x 1.0	0.44	10.5	0.3	11.7	1.4	14.7	300	147	28	2000	1300
5PR x 1.0	0.44	13.5	0.3	14.7	1.4	17.7	450	177	70	2000	1400
10PR x 1.0	0.44	19.2	0.3	20.4	1.6	24.1	740	241	140	2000	1700
20PR x 1.0	0.44	24.9	0.4	26.5	1.7	30.4	1230	304	280	1600	1900
1PR x 1.5	0.44	7.6	0.3	8.8	1.3	11.6	210	116	21	2000	1000
2PR x 1.5	0.44	11.3	0.3	12.5	1.4	15.5	340	155	42	2000	1300
5PR x 1.5	0.44	14.7	0.3	15.9	1.5	19.1	530	191	105	2000	1400
10PR x 1.5	0.44	21.0	0.4	22.6	1.6	26.3	950	263	210	2000	1900
20PR x 1.5	0.44	27.4	0.4	29.0	1.8	33.1	1530	331	420	1300	1900
1PR x 2.5	0.53	9.0	0.3	10.2	1.3	13.0	260	130	35	2000	1200
2PR x 2.5	0.53	13.6	0.3	14.8	1.5	18.0	450	180	70	2000	1400
5PR x 2.5	0.53	17.7	0.3	18.9	1.5	22.4	710	224	175	2000	1600
10PR x 2.5	0.53	25.5	0.4	27.1	1.7	31.0	1320	310	350	1500	1900
20PR x 2.5	0.53	33.2	0.4	34.8	1.9	39.1	2170	391	700	900	1900

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	6.7	0.3	7.9	1.3	10.7	180	107	10	2000	1000
2TR x 0.5	0.44	10.3	0.3	11.5	1.4	14.5	290	145	21	2000	1200
5TR x 0.5	0.44	13.3	0.3	14.5	1.4	17.5	430	175	52	2000	1400
10TR x 0.5	0.44	18.7	0.3	19.9	1.5	23.4	690	234	105	2000	1600
1TR x 0.75	0.44	7.1	0.3	8.3	1.3	11.1	190	111	15	2000	1000
2TR x 0.75	0.44	11.0	0.3	12.2	1.4	15.2	320	152	31	2000	1300
5TR x 0.75	0.44	14.2	0.3	15.4	1.5	18.6	490	186	78	2000	1400
10TR x 0.75	0.44	20.2	0.4	21.8	1.6	25.5	870	255	157	2000	1800
1TR x 1.0	0.44	7.5	0.3	8.7	1.3	11.5	210	115	21	2000	1000
2TR x 1.0	0.44	11.6	0.3	12.8	1.4	15.8	350	158	42	2000	1400
5TR x 1.0	0.44	15.1	0.3	16.3	1.5	19.5	560	195	105	2000	1400
10TR x 1.0	0.44	21.6	0.4	23.2	1.6	26.9	1000	269	210	2000	1900
1TR x 1.5	0.44	8.0	0.3	9.2	1.3	12.0	230	120	31	2000	1100
2TR x 1.5	0.44	12.9	0.3	14.1	1.4	17.1	420	171	63	2000	1400
5TR x 1.5	0.44	16.7	0.3	17.9	1.5	21.4	680	214	157	2000	1500
10TR x 1.5	0.44	23.8	0.4	25.4	1.7	29.3	1240	293	315	1600	1900
1TR x 2.5	0.53	9.6	0.3	10.8	1.4	13.8	300	138	52	2000	1200
2TR x 2.5	0.53	15.4	0.3	16.6	1.5	19.8	550	198	105	2000	1400
5TR x 2.5	0.53	20.0	0.4	21.6	1.6	25.3	990	253	262	2000	1800
10TR x 2.5	0.53	28.9	0.4	30.5	1.8	34.6	1740	346	525	1100	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	7.2	0.3	8.4	1.3	11.2	190	112	14	2000	1000
2QD x 0.5	0.44	12.8	0.3	14.0	1.4	17.0	360	170	28	2000	1400
5QD x 0.5	0.44	16.6	0.3	17.8	1.5	21.3	550	213	70	2000	1500
10QD x 0.5	0.44	23.7	0.4	25.3	1.7	29.2	990	292	140	2000	2000
1QD x 0.75	0.44	7.7	0.3	8.9	1.3	11.7	210	117	21	2000	1100
2QD x 0.75	0.44	13.7	0.3	14.9	1.4	17.9	410	179	42	2000	1400
5QD x 0.75	0.44	17.8	0.3	19.0	1.5	22.5	630	225	105	2000	1600
10QD x 0.75	0.44	25.6	0.4	27.2	1.7	31.1	1160	311	210	1700	2000
1QD x 1.0	0.44	8.1	0.3	9.3	1.3	12.1	230	121	28	2000	1100
2QD x 1.0	0.44	14.5	0.3	15.7	1.5	18.9	460	189	56	2000	1400
5QD x 1.0	0.44	19.2	0.3	20.4	1.5	23.9	730	239	140	2000	1700
10QD x 1.0	0.44	27.4	0.4	29.0	1.7	32.9	1320	329	280	1500	2000
1QD x 1.5	0.44	9.0	0.3	10.2	1.3	13.0	270	130	42	2000	1200
2QD x 1.5	0.44	16.0	0.3	17.2	1.5	20.7	540	207	84	2000	1500
5QD x 1.5	0.44	20.9	0.4	22.5	1.6	26.2	940	262	210	2000	1900
10QD x 1.5	0.44	30.2	0.4	31.8	1.8	35.9	1640	359	420	1200	2000
1QD x 2.5	0.53	10.5	0.3	11.7	1.4	14.7	350	147	70	2000	1300
2QD x 2.5	0.53	19.2	0.3	20.4	1.6	24.1	720	241	140	2000	1700
5QD x 2.5	0.53	25.4	0.4	27.0	1.7	30.9	1310	309	350	1500	1900
10QD x 2.5	0.53	36.8	0.4	38.4	2.0	42.9	2350	429	700	800	1900

Armoured (SWB) Individual & Overall Screened, Flame Retardant Instrumentation Cables

PE/ISOS/PVC/SWB/PVC-FR, XLPE/ISOS/PVC/SWB/PVC-FR
PE/ISOS/LSHF/SWB/LSHF, XLPE/ISOS/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	10.4	0.3	11.6	1.4	14.6	290	146	14	2000	1200
5PR x 0.5	0.44	13.4	0.3	14.6	1.4	17.6	430	176	35	2000	1400
10PR x 0.5	0.44	19.1	0.3	20.3	1.6	24.0	710	240	70	2000	1700
20PR x 0.5	0.44	24.6	0.4	26.2	1.7	30.1	1170	301	140	1700	1900
2PR x 0.75	0.44	11.0	0.3	12.2	1.4	15.2	320	152	21	2000	1300
5PR x 0.75	0.44	14.3	0.3	15.5	1.5	18.7	480	187	52	2000	1400
10PR x 0.75	0.44	20.3	0.4	21.9	1.6	25.6	850	256	105	2000	1800
20PR x 0.75	0.44	26.6	0.4	28.2	1.7	32.1	1340	321	210	1500	2000
2PR x 1.0	0.44	11.7	0.3	12.9	1.4	15.9	340	159	28	2000	1400
5PR x 1.0	0.44	15.1	0.3	16.3	1.5	19.5	530	195	70	2000	1400
10PR x 1.0	0.44	21.6	0.4	23.2	1.6	26.9	950	269	140	2000	1900
20PR x 1.0	0.44	28.5	0.4	30.1	1.8	34.2	1540	342	280	1300	1900
2PR x 1.5	0.44	12.8	0.3	14.0	1.4	17.0	400	170	42	2000	1400
5PR x 1.5	0.44	16.6	0.3	17.8	1.5	21.3	630	213	105	2000	1500
10PR x 1.5	0.44	23.8	0.4	25.4	1.7	29.3	1130	293	210	1700	1900
20PR x 1.5	0.44	31.2	0.4	32.8	1.8	36.9	1850	369	420	1000	1900
2PR x 2.5	0.53	15.2	0.3	16.4	1.5	19.6	510	196	70	2000	1400
5PR x 2.5	0.53	19.8	0.3	21.0	1.6	24.7	830	247	175	2000	1700
10PR x 2.5	0.53	28.6	0.4	30.2	1.8	34.3	1530	343	350	1300	1900
20PR x 2.5	0.53	37.5	0.4	39.1	2.0	43.6	2550	436	700	700	1900

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	11.5	0.3	12.7	1.4	15.7	330	157	21	2000	1400
5TR x 0.5	0.44	14.9	0.3	16.1	1.5	19.3	510	193	52	2000	1400
10TR x 0.5	0.44	21.3	0.4	22.9	1.6	26.6	900	266	105	2000	1900
2TR x 0.75	0.44	12.4	0.3	13.6	1.4	16.6	370	166	31	2000	1400
5TR x 0.75	0.44	16.1	0.3	17.3	1.5	20.8	580	208	78	2000	1500
10TR x 0.75	0.44	22.9	0.4	24.5	1.7	28.4	1050	284	157	1900	1900
2TR x 1.0	0.44	13.1	0.3	14.3	1.4	17.3	410	173	42	2000	1400
5TR x 1.0	0.44	17.1	0.3	18.3	1.5	21.8	650	218	105	2000	1600
10TR x 1.0	0.44	24.4	0.4	26.0	1.7	29.9	1180	299	210	1600	1900
2TR x 1.5	0.44	14.2	0.3	15.4	1.5	18.6	470	186	63	2000	1400
5TR x 1.5	0.44	18.7	0.3	19.9	1.6	23.6	790	236	157	2000	1700
10TR x 1.5	0.44	26.8	0.4	28.4	1.7	32.3	1420	323	315	1400	1900
2TR x 2.5	0.53	16.9	0.3	18.1	1.5	21.6	610	216	105	2000	1600
5TR x 2.5	0.53	22.3	0.4	23.9	1.7	27.8	1120	278	262	1700	1800
10TR x 2.5	0.53	32.2	0.4	33.8	1.9	38.1	1970	381	525	1000	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	13.4	0.3	14.6	1.4	17.6	390	176	28	2000	1400
5QD x 0.5	0.44	17.4	0.3	18.6	1.5	22.1	620	221	70	2000	1600
10QD x 0.5	0.44	24.8	0.4	26.4	1.7	30.3	1110	303	140	1800	2000
2QD x 0.75	0.44	14.2	0.3	15.4	1.5	18.6	440	186	42	2000	1400
5QD x 0.75	0.44	18.7	0.3	19.9	1.6	23.6	720	236	105	2000	1700
10QD x 0.75	0.44	26.8	0.4	28.4	1.7	32.3	1280	323	210	1500	2000
2QD x 1.0	0.44	15.1	0.3	16.3	1.5	19.5	490	195	56	2000	1400
5QD x 1.0	0.44	19.9	0.3	21.1	1.6	24.8	810	248	140	2000	1800
10QD x 1.0	0.44	28.7	0.4	30.3	1.8	34.4	1480	344	280	1300	2000
2QD x 1.5	0.44	16.6	0.3	17.8	1.5	21.3	570	213	84	2000	1500
5QD x 1.5	0.44	21.9	0.4	23.5	1.6	27.2	1030	272	210	1900	1900
10QD x 1.5	0.44	31.5	0.4	33.1	1.9	37.4	1810	374	420	1100	1900
2QD x 2.5	0.53	19.8	0.3	21.0	1.6	24.7	760	247	140	2000	1700
5QD x 2.5	0.53	26.1	0.4	27.7	1.7	31.6	1390	316	350	1400	1900
10QD x 2.5	0.53	37.9	0.4	39.5	2.0	44.0	2500	440	700	800	2000

Part 2: Instrumentation Cables Fire Resistant Range

Part 2: Instrumentation Cables Fire Resistant Range

Application for Fire Resistant Instrumentation Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas, emergency and critical systems where requirement for fire resistance exists. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.00 36.72	 24.50 24.99	 18.10 18.46	 12.10 12.34	 7.41 7.56
Max. Conductor Resistance (Tinned) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.70 37.43	 24.80 25.30	 18.20 18.56	 12.20 12.44	 7.56 7.71
Min. Insulation Resistance - XLEVA insulated - XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000	 10 1000	 10 1000
Max. Mutual Capacitance - XLEVA insulated - XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

IEC 60331-21

Good

Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air (Indoor)

8 D

Technical Data (For Armoured cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

IEC 60331-21

Excellent

Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

10 D

Non-armoured Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	0.9	8.2	70	66	7	2000	900
2PR x 0.5	0.44	1.0	12.2	140	98	14	2000	1100
5PR x 0.5	0.44	1.1	15.9	230	127	35	2000	1400
10PR x 0.5	0.44	1.3	22.9	430	183	70	2000	1600
20PR x 0.5	0.44	1.5	29.8	740	238	140	2000	2000
1PR x 0.75	0.44	0.9	8.6	80	69	10	2000	900
2PR x 0.75	0.44	1.0	12.8	160	102	21	2000	1100
5PR x 0.75	0.44	1.1	16.7	270	134	52	2000	1400
10PR x 0.75	0.44	1.3	24.1	500	193	105	2000	1700
20PR x 0.75	0.44	1.5	31.3	870	250	210	2000	2240
1PR x 1.0	0.44	0.9	8.8	90	70	14	2000	900
2PR x 1.0	0.44	1.1	13.3	180	106	28	2000	1200
5PR x 1.0	0.44	1.2	17.2	310	138	70	2000	1400
10PR x 1.0	0.44	1.4	24.8	570	198	140	2000	1800
20PR x 1.0	0.44	1.6	32.2	1000	258	280	2000	2240
1PR x 1.5	0.44	1.0	9.5	100	76	21	2000	900
2PR x 1.5	0.44	1.1	14.2	210	114	42	2000	1200
5PR x 1.5	0.44	1.2	18.4	370	147	105	2000	1400
10PR x 1.5	0.44	1.4	26.6	700	213	210	2000	1900
20PR x 1.5	0.44	1.7	34.8	1270	278	420	1500	2240
1PR x 2.5	0.53	1.0	10.9	140	87	35	2000	1000
2PR x 2.5	0.53	1.2	16.7	290	134	70	2000	1400
5PR x 2.5	0.53	1.3	22.1	540	177	175	2000	1600
10PR x 2.5	0.53	1.6	31.7	1020	254	350	1900	2240
20PR x 2.5	0.53	1.9	41.5	1870	332	700	1000	2000

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	0.9	8.7	90	70	10	2000	900
2TR x 0.5	0.44	1.1	13.9	180	111	21	2000	1200
5TR x 0.5	0.44	1.2	18.0	320	144	52	2000	1400
10TR x 0.5	0.44	1.4	25.9	590	207	105	2000	1900
1TR x 0.75	0.44	0.9	9.1	100	73	15	2000	900
2TR x 0.75	0.44	1.1	14.5	210	116	31	2000	1200
5TR x 0.75	0.44	1.2	18.9	370	151	78	2000	1400
10TR x 0.75	0.44	1.4	27.3	690	218	157	2000	1900
1TR x 1.0	0.44	0.9	9.3	110	74	21	2000	900
2TR x 1.0	0.44	1.1	14.8	230	118	42	2000	1300
5TR x 1.0	0.44	1.2	19.3	420	154	105	2000	1400
10TR x 1.0	0.44	1.5	28.1	790	225	210	2000	2000
10TR x 1.0	0.44	1.0	10.1	130	81	31	2000	900
1TR x 1.5	0.44	1.1	15.9	270	127	63	2000	1400
2TR x 1.5	0.44	1.3	21.2	520	170	157	2000	1500
5TR x 1.5	0.44	1.6	30.3	990	242	315	2000	2240
10TR x 1.5	0.53	1.0	11.6	180	93	52	2000	1000
1TR x 2.5	0.53	1.2	18.8	380	150	105	2000	1400
2TR x 2.5	0.53	1.4	25.0	750	200	262	2000	1800
5TR x 2.5	0.53	1.7	35.9	1440	287	525	1300	2000
10TR x 2.5	0.44	0.9	8.7	90	70	10	2000	900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	0.9	9.5	100	76	14	2000	900
2QD x 0.5	0.44	1.1	17.1	230	137	28	2000	1400
5QD x 0.5	0.44	1.3	22.8	420	182	70	2000	1500
10QD x 0.5	0.44	1.6	32.8	800	262	140	1000	1500
1QD x 0.75	0.44	1.0	10.1	120	81	21	2000	900
2QD x 0.75	0.44	1.2	18.1	280	145	42	2000	1400
5QD x 0.75	0.44	1.3	24.0	490	192	105	2000	1600
10QD x 0.75	0.44	1.6	34.5	940	276	210	1000	1600
1QD x 1.0	0.44	1.0	10.3	130	82	28	2000	900
2QD x 1.0	0.44	1.2	18.5	300	148	56	2000	1400
5QD x 1.0	0.44	1.4	24.7	560	198	140	2000	1600
10QD x 1.0	0.44	1.7	35.5	1070	284	280	1000	1600
1QD x 1.5	0.44	1.0	11.0	160	88	42	2000	1000
2QD x 1.5	0.44	1.3	20.0	360	160	84	2000	1400
5QD x 1.5	0.44	1.4	26.5	690	212	210	2000	1900
10QD x 1.5	0.44	1.8	38.3	1340	306	420	1400	2240
1QD x 2.5	0.53	1.1	12.9	220	103	70	2000	1100
2QD x 2.5	0.53	1.4	24.0	510	192	140	2000	1700
5QD x 2.5	0.53	1.6	31.6	1010	253	350	1900	2240
10QD x 2.5	0.53	2.0	45.7	1960	366	700	1000	2240

Non-armoured Individual & Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/ISOS/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	1.1	13.8	180	110	14	2000	1100
5PR x 0.5	0.44	1.2	17.9	300	143	35	2000	1400
10PR x 0.5	0.44	1.4	25.8	560	206	70	2000	1700
20PR x 0.5	0.44	1.6	33.6	980	269	140	1000	1600
2PR x 0.75	0.44	1.1	14.5	190	116	21	2000	1200
5PR x 0.75	0.44	1.2	18.8	340	150	52	2000	1400
10PR x 0.75	0.44	1.4	27.1	630	217	105	1000	1400
20PR x 0.75	0.44	1.7	35.5	1140	284	210	1900	2240
2PR x 1.0	0.44	1.1	14.7	210	118	28	2000	1300
5PR x 1.0	0.44	1.2	19.2	370	154	70	2000	1400
10PR x 1.0	0.44	1.5	27.9	710	223	140	2000	1900
20PR x 1.0	0.44	1.7	36.3	1260	290	280	1500	2240
2PR x 1.5	0.44	1.1	15.7	240	126	42	2000	1400
5PR x 1.5	0.44	1.3	21.0	450	168	105	2000	1500
10PR x 1.5	0.44	1.6	30.0	860	240	210	2000	2000
20PR x 1.5	0.44	1.8	39.0	1530	312	420	1300	2240
2PR x 2.5	0.53	1.2	18.5	330	148	70	2000	1400
5PR x 2.5	0.53	1.4	24.6	630	197	175	2000	1700
10PR x 2.5	0.53	1.7	35.3	1190	282	350	1600	2240
20PR x 2.5	0.53	2.0	46.3	2170	370	700	900	2240

Range and dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	1.1	15.3	220	122	21	2000	1300
5TR x 0.5	0.44	1.2	20.0	380	160	52	2000	1400
10TR x 0.5	0.44	1.5	29.1	730	233	105	2000	2000
2TR x 0.75	0.44	1.1	16.1	240	129	31	2000	1400
5TR x 0.75	0.44	1.3	21.4	450	171	78	2000	1500
10TR x 0.75	0.44	1.5	30.5	830	244	157	2000	2240
2TR x 1.0	0.44	1.2	16.6	270	133	42	2000	1400
5TR x 1.0	0.44	1.3	21.9	500	175	105	2000	1600
10TR x 1.0	0.44	1.6	31.4	940	251	210	2000	2240
2TR x 1.5	0.44	1.2	17.7	310	142	63	2000	1400
5TR x 1.5	0.44	1.4	23.6	610	189	157	2000	1700
10TR x 1.5	0.44	1.7	33.8	1150	270	315	1700	2240
2TR x 2.5	0.53	1.3	21.1	430	169	105	2000	1500
5TR x 2.5	0.53	1.5	27.7	850	222	262	2000	1900
10TR x 2.5	0.53	1.9	40.0	1640	320	525	1200	2240

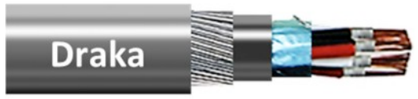
Range and dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	1.2	17.9	270	143	28	2000	1400
5QD x 0.5	0.44	1.3	23.6	490	189	70	2000	1600
10QD x 0.5	0.44	1.6	34.0	920	272	140	1000	1600
2QD x 0.75	0.44	1.2	18.8	300	150	42	2000	1400
5QD x 0.75	0.44	1.4	25.0	570	200	105	2000	1600
10QD x 0.75	0.44	1.7	35.9	1080	287	210	1000	1700
2QD x 1.0	0.44	1.2	19.1	330	153	56	2000	1400
5QD x 1.0	0.44	1.4	25.5	630	204	140	2000	1700
10QD x 1.0	0.44	1.7	36.7	1200	294	280	1800	2240
2QD x 1.5	0.44	1.3	20.9	400	167	84	2000	1500
5QD x 1.5	0.44	1.5	27.5	770	220	210	2000	1900
10QD x 1.5	0.44	1.8	39.5	1480	316	420	1300	2240
2QD x 2.5	0.53	1.4	24.6	540	197	140	2000	1700
5QD x 2.5	0.53	1.6	32.4	1090	259	350	1800	2240
10QD x 2.5	0.53	2.1	47.1	2130	377	700	900	2240

Armoured (SWA) Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/OSCR/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low Smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	8.0	0.9	9.8	1.3	12.6	290	126	7	2000	1100
2PR x 0.5	0.44	12.0	0.9	13.8	1.4	16.8	460	168	14	2000	1400
5PR x 0.5	0.44	15.7	1.25	18.1	1.5	21.6	780	216	35	2000	1600
10PR x 0.5	0.44	22.4	1.25	24.8	1.6	28.5	1210	285	70	1600	1800
20PR x 0.5	0.44	29.3	1.6	32.6	1.8	36.7	1970	367	140	1000	1900
1PR x 0.75	0.44	8.4	0.9	10.1	1.3	12.9	310	129	10	2000	1100
2PR x 0.75	0.44	12.6	0.9	14.4	1.4	17.4	490	174	21	2000	1400
5PR x 0.75	0.44	16.5	1.25	18.9	1.5	22.4	840	224	52	2000	1600
10PR x 0.75	0.44	23.6	1.25	26.0	1.6	29.7	1310	297	105	1500	1800
20PR x 0.75	0.44	30.8	1.6	34.2	1.8	38.3	2160	383	210	900	1800
1PR x 1.0	0.44	8.6	0.9	10.3	1.3	13.1	320	131	14	2000	1200
2PR x 1.0	0.44	13.1	0.9	14.8	1.4	17.8	530	178	28	2000	1400
5PR x 1.0	0.44	17.0	1.25	19.4	1.5	22.9	900	229	70	2000	1600
10PR x 1.0	0.44	24.3	1.25	26.7	1.7	30.6	1420	306	140	1400	1900
20PR x 1.0	0.44	31.7	1.6	35.1	1.8	39.2	2340	392	280	800	1800
1PR x 1.5	0.44	9.3	0.9	11.0	1.4	14.0	360	140	21	2000	1200
2PR x 1.5	0.44	14.0	1.25	16.4	1.5	19.6	710	196	42	2000	1400
5PR x 1.5	0.44	18.2	1.25	20.6	1.6	24.3	1020	243	105	1900	1700
10PR x 1.5	0.44	26.1	1.25	28.5	1.7	32.4	1620	324	210	1200	1800
20PR x 1.5	0.44	34.3	1.6	37.6	1.9	41.9	2710	419	420	700	1800
1PR x 2.5	0.53	10.7	0.9	12.5	1.4	15.5	430	155	35	2000	1300
2PR x 2.5	0.53	16.5	1.25	19.0	1.5	22.5	860	225	70	2000	1600
5PR x 2.5	0.53	21.6	1.25	24.0	1.6	27.7	1290	277	175	1500	1700
10PR x 2.5	0.53	31.2	1.6	34.5	1.8	38.6	2320	386	350	800	1700
20PR x 2.5	0.53	41.0	2.0	45.1	2.1	49.8	3970	498	700	500	1800

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	8.5	0.9	10.3	1.3	13.1	310	131	10	2000	1200
2TR x 0.5	0.44	13.7	0.9	15.4	1.4	18.4	540	184	21	2000	1400
5TR x 0.5	0.44	17.8	1.25	20.2	1.5	23.7	930	237	52	2000	1700
10TR x 0.5	0.44	25.4	1.25	27.9	1.7	31.8	1480	318	105	1300	1900
1TR x 0.75	0.44	8.9	0.9	10.6	1.3	13.4	340	134	15	2000	1200
2TR x 0.75	0.44	14.3	1.25	16.8	1.5	20.0	720	200	31	2000	1400
5TR x 0.75	0.44	18.7	1.25	21.1	1.5	24.6	1020	246	78	1900	1700
10TR x 0.75	0.44	26.8	1.25	29.2	1.7	33.1	1630	331	157	1200	1900
1TR x 1.0	0.44	9.1	0.9	10.8	1.3	13.6	350	136	21	2000	1200
2TR x 1.0	0.44	14.6	1.25	17.1	1.5	20.6	740	206	42	2000	1400
5TR x 1.0	0.44	19.1	1.25	21.5	1.6	25.2	1090	252	105	1800	1700
10TR x 1.0	0.44	27.6	1.25	30.2	1.7	34.1	1780	341	210	1100	1800
1TR x 1.5	0.44	9.9	0.9	11.6	1.4	14.6	400	146	31	2000	1200
2TR x 1.5	0.44	15.7	1.25	18.1	1.5	21.6	810	216	63	2000	1600
5TR x 1.5	0.44	20.7	1.25	23.1	1.6	26.8	1250	268	157	1600	1700
10TR x 1.5	0.44	29.6	1.6	33.0	1.8	37.1	2230	371	315	800	1600
1TR x 2.5	0.53	11.4	0.9	13.2	1.4	16.2	490	162	52	2000	1400
2TR x 2.5	0.53	18.6	1.25	21.0	1.6	24.7	1030	247	105	1900	1700
5TR x 2.5	0.53	24.5	1.25	27.0	1.7	30.9	1620	309	262	1200	1700
10TR x 2.5	0.53	35.4	1.6	38.8	1.9	43.1	2940	431	525	600	1700

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	9.3	0.9	11.0	1.3	13.8	350	138	14	2000	1200
2QD x 0.5	0.44	16.9	1.25	19.3	1.5	22.8	820	228	28	2000	1600
5QD x 0.5	0.44	22.3	1.25	24.7	1.6	28.4	1200	284	70	1600	1800
10QD x 0.5	0.44	32.1	1.6	35.4	1.8	39.5	2120	395	140	900	1900
1QD x 0.75	0.44	9.9	0.9	11.7	1.4	14.7	390	147	21	2000	1300
2QD x 0.75	0.44	17.9	1.25	20.4	1.5	23.9	900	239	42	2000	1700
5QD x 0.75	0.44	23.5	1.25	25.9	1.6	29.6	1310	296	105	1500	1800
10QD x 0.75	0.44	34.0	1.6	37.3	1.9	41.6	2380	416	210	800	1900
1QD x 1.0	0.44	10.1	0.9	11.9	1.4	14.9	410	149	28	2000	1300
2QD x 1.0	0.44	18.3	1.25	20.8	1.5	24.3	930	243	56	2000	1700
5QD x 1.0	0.44	24.2	1.25	26.6	1.7	30.5	1420	305	140	1400	1800
10QD x 1.0	0.44	35.0	1.6	38.3	1.9	42.6	2550	426	280	700	1800
1QD x 1.5	0.44	10.8	0.9	12.5	1.4	15.5	450	155	42	2000	1300
2QD x 1.5	0.44	19.8	1.25	22.3	1.6	26.0	1060	260	84	1800	1700
5QD x 1.5	0.44	26.0	1.25	28.4	1.7	32.3	1610	323	210	1200	1800
10QD x 1.5	0.44	37.8	1.6	41.1	2.0	45.6	2950	456	420	600	1800
1QD x 2.5	0.53	12.7	0.9	14.5	1.4	17.5	570	175	70	2000	1400
2QD x 2.5	0.53	23.5	1.25	26.0	1.7	29.9	1340	299	140	1400	1800
5QD x 2.5	0.53	31.1	1.6	34.4	1.8	38.5	2310	385	350	800	1700
10QD x 2.5	0.53	45.2	2.0	49.3	2.2	54.2	4280	542	700	400	1800

Armoured (SWA) Individual & Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/ISOS/LSHF/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	13.6	0.9	15.4	1.4	18.4	540	184	14	2000	1400
5PR x 0.5	0.44	17.7	1.25	20.1	1.5	23.6	910	236	35	2000	1700
10PR x 0.5	0.44	25.3	1.25	27.8	1.7	31.7	1450	317	70	1300	1900
20PR x 0.5	0.44	33.1	1.6	36.5	1.8	40.6	2360	406	140	800	1800
2PR x 0.75	0.44	14.3	1.25	16.7	1.5	19.9	690	199	21	2000	1400
5PR x 0.75	0.44	18.6	1.25	21.0	1.6	24.7	990	247	52	2000	1700
10PR x 0.75	0.44	26.6	1.25	29.0	1.7	32.9	1560	329	105	1200	1800
20PR x 0.75	0.44	35.0	1.6	38.4	1.9	42.7	2620	427	210	700	1800
2PR x 1.0	0.44	14.5	1.25	17.0	1.5	20.5	720	205	28	2000	1400
5PR x 1.0	0.44	19.0	1.25	21.4	1.6	25.1	1030	251	70	1900	1700
10PR x 1.0	0.44	27.4	1.25	29.8	1.7	33.7	1670	337	140	1200	1900
20PR x 1.0	0.44	35.8	1.6	39.1	1.9	43.4	2760	434	280	700	1900
2PR x 1.5	0.44	15.5	1.25	17.9	1.5	21.4	790	214	42	2000	1500
5PR x 1.5	0.44	20.5	1.25	22.9	1.6	26.6	1170	266	105	1700	1700
10PR x 1.5	0.44	29.3	1.6	32.6	1.8	36.7	2080	367	210	900	1700
20PR x 1.5	0.44	38.5	1.6	41.9	2.0	46.4	3170	464	420	600	1800
2PR x 2.5	0.53	18.3	1.25	20.7	1.6	24.4	970	244	70	2000	1700
5PR x 2.5	0.53	24.1	1.25	26.6	1.7	30.5	1480	305	175	1300	1700
10PR x 2.5	0.53	34.8	1.6	38.2	1.9	42.5	2660	425	350	700	1800
20PR x 2.5	0.53	45.8	2.0	49.9	2.2	54.8	4520	548	700	400	1800

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	15.1	1.25	17.6	1.5	21.1	750	211	21	2000	1500
5TR x 0.5	0.44	19.8	1.25	22.2	1.6	25.9	1080	259	52	1800	1700
10TR x 0.5	0.44	28.6	1.25	31.2	1.7	35.1	1740	351	105	1100	1900
2TR x 0.75	0.44	15.9	1.25	18.3	1.5	21.8	790	218	31	2000	1600
5TR x 0.75	0.44	20.9	1.25	23.4	1.6	27.1	1180	271	78	1600	1700
10TR x 0.75	0.44	30.0	1.6	33.4	1.8	37.5	2090	375	157	900	1800
2TR x 1.0	0.44	16.2	1.25	18.6	1.5	22.1	820	221	42	2000	1600
5TR x 1.0	0.44	21.4	1.25	23.8	1.6	27.5	1250	275	105	1600	1700
10TR x 1.0	0.44	30.9	1.6	34.2	1.8	38.3	2230	383	210	800	1700
2TR x 1.5	0.44	17.5	1.25	19.9	1.5	23.4	920	234	63	2000	1600
5TR x 1.5	0.44	23.1	1.25	25.5	1.7	29.4	1420	294	157	1400	1700
10TR x 1.5	0.44	33.3	1.6	36.6	1.9	40.9	2550	409	315	700	1700
2TR x 2.5	0.53	20.6	1.25	23.0	1.6	26.7	1150	267	105	1700	1700
5TR x 2.5	0.53	27.2	1.6	30.6	1.8	34.7	2000	347	262	1000	1700
10TR x 2.5	0.53	39.5	1.6	42.9	2.0	47.4	3310	474	525	600	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	17.7	1.25	20.1	1.5	23.6	880	236	28	2000	1700
5QD x 0.5	0.44	23.1	1.25	25.6	1.6	29.3	1290	293	70	1500	1800
10QD x 0.5	0.44	33.5	1.6	36.8	1.8	40.9	2310	409	140	800	1900
2QD x 0.75	0.44	18.6	1.25	21.0	1.5	24.5	940	245	42	2000	1700
5QD x 0.75	0.44	24.5	1.25	26.9	1.7	30.8	1430	308	105	1400	1900
10QD x 0.75	0.44	35.4	1.6	38.8	1.9	43.1	2560	431	210	700	1800
2QD x 1.0	0.44	18.9	1.25	21.4	1.6	25.1	990	251	56	2000	1800
5QD x 1.0	0.44	25.0	1.25	27.5	1.7	31.4	1510	314	140	1300	1800
10QD x 1.0	0.44	36.2	1.6	39.5	1.9	43.8	2720	438	280	700	1900
2QD x 1.5	0.44	20.4	1.25	22.9	1.6	26.6	1110	266	84	1800	1800
5QD x 1.5	0.44	27.0	1.6	30.3	1.8	34.4	1920	344	210	1000	1700
10QD x 1.5	0.44	39.0	1.6	42.3	2.0	46.8	3130	468	420	600	1800
2QD x 2.5	0.53	24.1	1.25	26.6	1.7	30.5	1400	305	140	1400	1800
5QD x 2.5	0.53	31.9	1.6	35.2	1.9	39.5	2440	395	350	800	1800
10QD x 2.5	0.53	46.6	2.0	50.9	2.2	55.8	4570	558	700	400	1800

Armoured (SWB) Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/OSCR/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low Smoke Halogen Free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	8.0	0.3	9.2	1.3	12.0	200	120	7	2000	1100
2PR x 0.5	0.44	12.0	0.3	13.2	1.4	16.2	330	162	14	2000	1400
5PR x 0.5	0.44	15.7	0.3	16.9	1.4	19.9	480	199	35	2000	1400
10PR x 0.5	0.44	22.4	0.4	24.0	1.6	27.7	850	277	70	2000	1900
20PR x 0.5	0.44	29.3	0.4	30.9	1.7	34.8	1300	348	140	1500	2240
1PR x 0.75	0.44	8.4	0.3	9.6	1.3	12.4	210	124	10	2000	1100
2PR x 0.75	0.44	12.6	0.3	13.8	1.4	16.8	360	168	21	2000	1400
5PR x 0.75	0.44	16.5	0.3	17.7	1.5	21.2	530	212	52	2000	1500
10PR x 0.75	0.44	23.6	0.4	25.2	1.6	28.9	940	289	105	2000	2000
20PR x 0.75	0.44	30.8	0.4	32.4	1.8	36.5	1480	365	210	1300	2000
1PR x 1.0	0.44	8.6	0.3	9.8	1.3	12.6	220	126	14	2000	1100
2PR x 1.0	0.44	13.1	0.3	14.3	1.4	17.3	380	173	28	2000	1400
5PR x 1.0	0.44	17.0	0.3	18.2	1.5	21.7	580	217	70	2000	1600
10PR x 1.0	0.44	24.3	0.4	25.9	1.6	29.6	1030	296	140	1900	2000
20PR x 1.0	0.44	31.7	0.4	33.3	1.8	37.4	1630	374	280	1200	2000
1PR x 1.5	0.44	9.3	0.3	10.5	1.3	13.3	250	133	21	2000	1200
2PR x 1.5	0.44	14.0	0.3	15.2	1.4	18.2	430	182	42	2000	1400
5PR x 1.5	0.44	18.2	0.3	19.4	1.5	22.9	660	229	105	2000	1600
10PR x 1.5	0.44	26.1	0.4	27.7	1.7	31.6	1200	316	210	1600	2000
20PR x 1.5	0.44	34.3	0.4	35.9	1.9	40.2	1960	402	420	1000	2000
1PR x 2.5	0.53	10.7	0.3	11.9	1.4	14.9	310	149	35	2000	1300
2PR x 2.5	0.53	16.5	0.3	17.7	1.5	21.2	550	212	70	2000	1500
5PR x 2.5	0.53	21.6	0.4	23.2	1.6	26.9	950	269	175	2000	1900
10PR x 2.5	0.53	31.2	0.4	32.8	1.8	36.9	1640	369	350	1200	2000
20PR x 2.5	0.53	41.0	0.4	42.6	2.0	47.1	2710	471	700	700	2000

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	8.5	0.3	9.7	1.3	12.5	220	125	10	2000	1100
2TR x 0.5	0.44	13.7	0.3	14.9	1.4	17.9	400	179	21	2000	1400
5TR x 0.5	0.44	17.8	0.3	19.0	1.5	22.5	600	225	52	2000	1600
10TR x 0.5	0.44	25.4	0.4	27.0	1.6	30.7	1060	307	105	1800	2000
1TR x 0.75	0.44	8.9	0.3	10.1	1.3	12.9	240	129	15	2000	1100
2TR x 0.75	0.44	14.3	0.3	15.5	1.4	18.5	430	185	31	2000	1400
5TR x 0.75	0.44	18.7	0.3	19.9	1.5	23.4	670	234	78	2000	1600
10TR x 0.75	0.44	26.8	0.4	28.4	1.7	32.3	1210	323	157	1600	2000
1TR x 1.0	0.44	9.1	0.3	10.3	1.3	13.1	250	131	21	2000	1200
2TR x 1.0	0.44	14.6	0.3	15.8	1.4	18.8	460	188	42	2000	1400
5TR x 1.0	0.44	19.1	0.3	20.3	1.5	23.8	720	238	105	2000	1700
10TR x 1.0	0.44	27.6	0.4	29.2	1.7	33.1	1320	331	210	1500	2000
1TR x 1.5	0.44	9.9	0.3	11.1	1.3	13.9	280	139	31	2000	1200
2TR x 1.5	0.44	15.7	0.3	16.9	1.5	20.1	520	201	63	2000	1400
5TR x 1.5	0.44	20.7	0.4	22.3	1.6	26.0	920	260	157	2000	1900
10TR x 1.5	0.44	29.6	0.4	31.2	1.8	35.3	1560	353	315	1200	1900
1TR x 2.5	0.53	11.4	0.3	12.6	1.4	15.6	360	156	52	2000	1300
2TR x 2.5	0.53	18.6	0.3	19.8	1.5	23.3	670	233	105	2000	1600
5TR x 2.5	0.53	24.5	0.4	26.1	1.7	30.0	1230	300	262	1600	1900
10TR x 2.5	0.53	35.4	0.4	37.0	1.9	41.3	2160	413	525	900	2000

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	9.3	0.3	10.5	1.3	13.3	250	133	14	2000	1200
2QD x 0.5	0.44	16.9	0.3	18.1	1.5	21.6	500	216	28	2000	1600
5QD x 0.5	0.44	22.3	0.4	23.9	1.6	27.6	850	276	70	2000	1900
10QD x 0.5	0.44	32.1	0.4	33.7	1.8	37.8	1410	378	140	1400	2240
1QD x 0.75	0.44	9.9	0.3	11.1	1.3	13.9	280	139	21	2000	1200
2QD x 0.75	0.44	17.9	0.3	19.1	1.5	22.6	560	226	42	2000	1600
5QD x 0.75	0.44	23.5	0.4	25.1	1.6	28.8	940	288	105	2000	2000
10QD x 0.75	0.44	34.0	0.4	35.6	1.8	39.7	1600	397	210	1200	2240
1QD x 1.0	0.44	10.1	0.3	11.3	1.3	14.1	290	141	28	2000	1200
2QD x 1.0	0.44	18.3	0.3	19.5	1.5	23.0	590	230	56	2000	1600
5QD x 1.0	0.44	24.2	0.4	25.8	1.6	29.5	1020	295	140	1900	2000
10QD x 1.0	0.44	35.0	0.4	36.6	1.8	40.7	1760	407	280	1100	2240
1QD x 1.5	0.44	10.8	0.3	12.0	1.4	15.0	330	150	42	2000	1300
2QD x 1.5	0.44	19.8	0.3	21.0	1.5	24.5	680	245	84	2000	1700
5QD x 1.5	0.44	26.0	0.4	27.6	1.7	31.5	1200	315	210	1600	2000
10QD x 1.5	0.44	37.8	0.4	39.4	1.9	43.7	2100	437	420	900	2000
1QD x 2.5	0.53	12.7	0.3	13.9	1.4	16.9	430	169	70	2000	1400
2QD x 2.5	0.53	23.5	0.4	25.1	1.6	28.8	960	288	140	2000	2000
5QD x 2.5	0.53	31.1	0.4	32.7	1.8	36.8	1630	368	350	1200	2000
10QD x 2.5	0.53	45.2	0.4	46.8	2.1	51.5	2910	515	700	600	2000

Armoured (SWB) Individual & Overall Screened, Fire Resistant Instrumentation Cables

MGT/XLPE/ISOS/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low Smoke Halogen Free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	13.6	0.3	14.8	1.4	17.8	390	178	14	2000	1400
5PR x 0.5	0.44	17.7	0.3	18.9	1.5	22.4	590	224	35	2000	1600
10PR x 0.5	0.44	25.3	0.4	26.9	1.6	30.6	1040	306	70	1900	2240
20PR x 0.5	0.44	33.1	0.4	34.7	1.8	38.8	1630	388	140	1200	2240
2PR x 0.75	0.44	14.3	0.3	15.5	1.4	18.5	410	185	21	2000	1400
5PR x 0.75	0.44	18.6	0.3	19.8	1.5	23.3	640	233	52	2000	1600
10PR x 0.75	0.44	26.6	0.4	28.2	1.7	32.1	1140	321	105	1700	2000
20PR x 0.75	0.44	35.0	0.4	36.6	1.8	40.7	1820	407	210	1100	2240
2PR x 1.0	0.44	14.5	0.3	15.7	1.4	18.7	440	187	28	2000	1400
5PR x 1.0	0.44	19.0	0.3	20.2	1.5	23.7	680	237	70	2000	1700
10PR x 1.0	0.44	27.4	0.4	29.0	1.7	32.9	1240	329	140	1600	2000
20PR x 1.0	0.44	35.8	0.4	37.4	1.9	41.7	1980	417	280	1000	2000
2PR x 1.5	0.44	15.5	0.3	16.7	1.5	19.9	490	199	42	2000	1400
5PR x 1.5	0.44	20.5	0.4	22.1	1.6	25.8	840	258	105	2000	1900
10PR x 1.5	0.44	29.3	0.4	30.9	1.8	35.0	1420	350	210	1400	2000
20PR x 1.5	0.44	38.5	0.4	40.1	2.0	44.6	2330	446	420	800	2000
2PR x 2.5	0.53	18.3	0.3	19.5	1.5	23.0	620	230	70	2000	1600
5PR x 2.5	0.53	24.1	0.4	25.7	1.7	29.6	1090	296	175	1800	2000
10PR x 2.5	0.53	34.8	0.4	36.4	1.9	40.7	1900	407	350	1000	2000
20PR x 2.5	0.53	45.8	0.4	47.4	2.1	52.1	3130	521	700	600	2000

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	15.1	0.3	16.3	1.4	19.3	450	193	21	2000	1400
5TR x 0.5	0.44	19.8	0.3	21.0	1.5	24.5	700	245	52	2000	1700
10TR x 0.5	0.44	28.6	0.4	30.2	1.7	34.1	1280	341	105	1500	2000
2TR x 0.75	0.44	15.9	0.3	17.1	1.5	20.6	490	206	31	2000	1400
5TR x 0.75	0.44	20.9	0.4	22.5	1.6	26.2	850	262	78	2000	1900
10TR x 0.75	0.44	30.0	0.4	31.6	1.7	35.5	1410	355	157	1400	2000
2TR x 1.0	0.44	16.2	0.3	17.4	1.5	20.9	520	209	42	2000	1500
5TR x 1.0	0.44	21.4	0.4	23.0	1.6	26.7	900	267	105	2000	1900
10TR x 1.0	0.44	30.9	0.4	32.5	1.8	36.6	1550	366	210	1200	2000
2TR x 1.5	0.44	17.5	0.3	18.7	1.5	22.2	590	222	63	2000	1600
5TR x 1.5	0.44	23.1	0.4	24.7	1.6	28.4	1040	284	157	1900	1900
10TR x 1.5	0.44	33.3	0.4	34.9	1.8	39.0	1810	390	315	1100	2000
2TR x 2.5	0.53	20.6	0.4	22.2	1.6	25.9	820	259	105	2000	1900
5TR x 2.5	0.53	27.2	0.4	28.8	1.7	32.7	1370	327	262	1400	1900
10TR x 2.5	0.53	39.5	0.4	41.1	2.0	45.6	2450	456	525	800	2000

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	17.7	0.3	18.9	1.5	22.4	550	224	28	2000	1600
5QD x 0.5	0.44	23.1	0.4	24.7	1.6	28.4	920	284	70	2000	2000
10QD x 0.5	0.44	33.5	0.4	35.1	1.8	39.2	1570	392	140	1200	2240
2QD x 0.75	0.44	18.6	0.3	19.8	1.5	23.3	600	233	42	2000	1600
5QD x 0.75	0.44	24.5	0.4	26.1	1.6	29.8	1030	298	105	1900	2000
10QD x 0.75	0.44	35.4	0.4	37.0	1.9	41.3	1790	413	210	1100	2240
2QD x 1.0	0.44	18.9	0.3	20.1	1.5	23.6	630	236	56	2000	1700
5QD x 1.0	0.44	25.0	0.4	26.6	1.7	30.5	1120	305	140	1800	2000
10QD x 1.0	0.44	36.2	0.4	37.8	1.9	42.1	1920	421	280	1000	2240
2QD x 1.5	0.44	20.4	0.4	22.0	1.6	25.7	790	257	84	2000	1800
5QD x 1.5	0.44	27.0	0.4	28.6	1.7	32.5	1290	325	210	1500	2000
10QD x 1.5	0.44	39.0	0.4	40.6	2.0	45.1	2280	451	420	800	2000
2QD x 2.5	0.53	24.1	0.4	25.7	1.7	29.6	1010	296	140	1900	2000
5QD x 2.5	0.53	31.9	0.4	33.5	1.8	37.6	1710	376	350	1100	2000
10QD x 2.5	0.53	46.6	0.4	48.2	2.1	52.9	3110	529	700	600	2000

Part 3: Instrumentation Cables Hydrocarbon Resistant Range

Application for Hydrocarbon Resistant Instrumentation Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.00 36.72	 24.50 24.99	 18.10 18.46	 12.10 12.34	 7.41 7.56
Max. Conductor Resistance (Tinned) - Cores / 1PR / 1TR / 1QD - Multi element (PR / TR / QD)	 Ω/km Ω/km	 36.70 37.43	 24.80 25.30	 18.20 18.56	 12.20 12.44	 7.56 7.71
Min. Insulation Resistance - XLEVA insulated - XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000	 10 1000	 10 1000
Max. Mutual Capacitance - XLEVA insulated - XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Armoured (SWA) Overall Screened, Hydrocarbon Resistant Instrumentation Cables

PE/ALUPAC/SWA/PVC-FR, XLPE/ALUPAC/SWA/PVC-FR
PE/ALUPAC/SWA/LSHF, XLPE/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	7.0	0.9	9.7	1.3	12.5	290	125	7	2000	1100
2PR x 0.5	0.44	9.7	0.9	12.5	1.3	15.3	400	153	14	2000	1300
5PR x 0.5	0.44	12.4	0.9	15.1	1.4	18.1	550	181	35	2000	1400
10PR x 0.5	0.44	17.3	1.25	20.8	1.5	24.3	960	243	70	2000	1700
20PR x 0.5	0.44	22.2	1.25	25.6	1.6	29.3	1340	293	140	1500	1800
1PR x 0.75	0.44	7.4	0.9	10.1	1.3	12.9	310	129	10	2000	1100
2PR x 0.75	0.44	10.5	0.9	13.3	1.4	16.3	450	163	21	2000	1400
5PR x 0.75	0.44	13.4	0.9	16.1	1.4	19.1	610	191	52	2000	1400
10PR x 0.75	0.44	18.5	1.25	21.9	1.6	25.6	1070	256	105	1800	1700
20PR x 0.75	0.44	23.9	1.25	27.4	1.7	31.3	1540	313	210	1300	1800
1PR x 1.0	0.44	7.7	0.9	10.5	1.3	13.3	320	133	14	2000	1200
2PR x 1.0	0.44	11.1	0.9	13.9	1.4	16.9	480	169	28	2000	1400
5PR x 1.0	0.44	14.2	1.25	17.6	1.5	21.1	800	211	70	2000	1500
10PR x 1.0	0.44	19.9	1.25	23.3	1.6	27.0	1190	270	140	1600	1700
20PR x 1.0	0.44	25.5	1.25	29.0	1.7	32.9	1730	329	280	1100	1700
1PR x 1.5	0.44	8.3	0.9	11.0	1.3	13.8	350	138	21	2000	1200
2PR x 1.5	0.44	12.0	0.9	14.7	1.4	17.7	540	177	42	2000	1400
5PR x 1.5	0.44	15.4	1.25	18.8	1.5	22.3	900	223	105	2000	1600
10PR x 1.5	0.44	21.7	1.25	25.1	1.6	28.8	1380	288	210	1400	1700
20PR x 1.5	0.44	28.1	1.6	32.4	1.8	36.5	2250	365	420	800	1600
1PR x 2.5	0.53	9.7	0.9	12.4	1.3	15.2	420	152	35	2000	1300
2PR x 2.5	0.53	14.2	1.25	17.7	1.5	21.2	790	212	70	2000	1500
5PR x 2.5	0.53	18.3	1.25	21.8	1.6	25.5	1140	255	175	1700	1700
10PR x 2.5	0.53	26.1	1.6	30.5	1.8	34.6	2020	346	350	900	1600
20PR x 2.5	0.53	33.9	1.6	38.2	1.9	42.5	3020	425	700	600	1600

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	7.3	0.9	10.1	1.3	12.9	310	129	10	2000	1100
2TR x 0.5	0.44	11.0	0.9	13.7	1.4	16.7	470	167	21	2000	1400
5TR x 0.5	0.44	14.0	0.9	16.7	1.4	19.7	650	197	52	2000	1400
10TR x 0.5	0.44	19.4	1.25	22.8	1.6	26.5	1140	265	105	1700	1700
1TR x 0.75	0.44	7.7	0.9	10.5	1.3	13.3	330	133	15	2000	1200
2TR x 0.75	0.44	11.6	0.9	14.4	1.4	17.4	510	174	31	2000	1400
5TR x 0.75	0.44	14.9	1.25	18.3	1.5	21.8	840	218	78	2000	1600
10TR x 0.75	0.44	20.9	1.25	24.3	1.6	28.0	1290	280	157	1500	1700
1TR x 1.0	0.44	8.1	0.9	10.9	1.3	13.7	350	137	21	2000	1200
2TR x 1.0	0.44	12.3	0.9	15.0	1.4	18.0	550	180	42	2000	1400
5TR x 1.0	0.44	15.8	1.25	19.2	1.5	22.7	930	227	105	2000	1600
10TR x 1.0	0.44	22.3	1.25	25.7	1.6	29.4	1440	294	210	1300	1700
1TR x 1.5	0.44	8.7	0.9	11.4	1.3	14.2	380	142	31	2000	1200
2TR x 1.5	0.44	13.5	0.9	16.3	1.4	19.3	630	193	63	2000	1400
5TR x 1.5	0.44	17.3	1.25	20.8	1.5	24.3	1080	243	157	1800	1600
10TR x 1.5	0.44	24.5	1.25	27.9	1.7	31.8	1710	318	315	1100	1700
1TR x 2.5	0.53	10.2	0.9	13.0	1.4	16.0	480	160	52	2000	1400
2TR x 2.5	0.53	16.0	1.25	19.5	1.5	23.0	930	230	105	2000	1600
5TR x 2.5	0.53	20.7	1.25	24.1	1.6	27.8	1410	278	262	1400	1600
10TR x 2.5	0.53	29.6	1.6	33.9	1.8	38.0	2480	380	525	800	1700

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	7.9	0.9	10.6	1.3	13.4	340	134	14	2000	1200
2QD x 0.5	0.44	13.5	0.9	16.2	1.4	19.2	570	192	28	2000	1400
5QD x 0.5	0.44	17.3	1.25	20.7	1.5	24.2	960	242	70	2000	1700
10QD x 0.5	0.44	24.4	1.25	27.8	1.7	31.7	1460	317	140	1300	1900
1QD x 0.75	0.44	8.3	0.9	11.1	1.3	13.9	360	139	21	2000	1200
2QD x 0.75	0.44	14.3	1.25	17.8	1.5	21.3	760	213	42	2000	1500
5QD x 0.75	0.44	18.4	1.25	21.9	1.6	25.6	1070	256	105	1800	1700
10QD x 0.75	0.44	26.3	1.25	29.7	1.7	33.6	1660	336	210	1200	1900
1QD x 1.0	0.44	8.8	0.9	11.5	1.3	14.3	380	143	28	2000	1200
2QD x 1.0	0.44	15.2	1.25	18.6	1.5	22.1	810	221	56	2000	1600
5QD x 1.0	0.44	19.6	1.25	23.1	1.6	26.8	1180	268	140	1700	1700
10QD x 1.0	0.44	28.0	1.6	32.4	1.8	36.5	2050	365	280	900	1700
1QD x 1.5	0.44	9.4	0.9	12.2	1.3	15.0	430	150	42	2000	1300
2QD x 1.5	0.44	16.7	1.25	20.1	1.5	23.6	930	236	84	2000	1700
5QD x 1.5	0.44	21.6	1.25	25.0	1.6	28.7	1370	287	210	1400	1700
10QD x 1.5	0.44	30.9	1.6	35.2	1.8	39.3	2420	393	420	800	1800
1QD x 2.5	0.53	11.1	0.9	13.9	1.4	16.9	530	169	70	2000	1400
2QD x 2.5	0.53	19.9	1.25	23.3	1.6	27.0	1170	270	140	1700	1800
5QD x 2.5	0.53	26.0	1.6	30.4	1.8	34.5	2010	345	350	900	1600
10QD x 2.5	0.53	37.3	1.6	41.6	2.0	46.1	3240	461	700	600	1800

Armoured (SWA) Individual & Overall Screened, Hydrocarbon Resistant Instrumentation Cables

PE/IS/ALUPAC/SWA/PVC-FR, XLPE/IS/ALUPAC/SWA/PVC-FR
PE/IS/ALUPAC/SWA/LSHF, XLPE/IS/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	8.3	0.9	13.8	1.4	16.8	470	168	14	2000	1400
5PR x 0.5	0.44	11.2	1.25	17.5	1.4	20.8	770	208	35	2000	1500
10PR x 0.5	0.44	16.5	1.25	23.0	1.6	26.7	1150	267	70	1700	1700
20PR x 0.5	0.44	21.9	1.25	28.8	1.7	32.7	1660	327	140	1200	1800
2PR x 0.75	0.44	9.0	0.9	14.4	1.4	17.4	510	174	21	2000	1400
5PR x 0.75	0.44	12.1	1.25	18.4	1.5	21.9	840	219	52	2000	1600
10PR x 0.75	0.44	17.8	1.25	24.5	1.6	28.2	1270	282	105	1500	1700
20PR x 0.75	0.44	23.6	1.6	31.6	1.8	35.7	2060	357	210	900	1700
2PR x 1.0	0.44	9.3	0.9	14.7	1.4	17.7	530	177	28	2000	1400
5PR x 1.0	0.44	12.4	1.25	18.8	1.5	22.3	880	223	70	2000	1600
10PR x 1.0	0.44	18.3	1.25	25.1	1.6	28.8	1350	288	140	1400	1700
20PR x 1.0	0.44	24.3	1.6	32.4	1.8	36.5	2190	365	280	900	1700
2PR x 1.5	0.44	10.2	1.25	16.4	1.4	19.4	700	194	42	2000	1400
5PR x 1.5	0.44	13.7	1.25	20.3	1.5	23.8	1000	238	105	2000	1700
10PR x 1.5	0.44	20.2	1.25	27.2	1.7	31.1	1560	311	210	1200	1700
20PR x 1.5	0.44	26.9	1.6	35.2	1.9	39.5	2580	395	420	700	1600
2PR x 2.5	0.53	12.8	1.25	19.2	1.5	22.7	880	227	70	2000	1600
5PR x 2.5	0.53	17.2	1.25	24.0	1.6	27.7	1290	277	175	1500	1700
10PR x 2.5	0.53	25.4	1.6	33.6	1.8	37.7	2280	377	350	800	1700
20PR x 2.5	0.53	33.7	2.0	43.4	2.0	47.9	3820	479	700	500	1700

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	9.4	0.9	14.9	1.4	17.9	530	179	21	2000	1400
5TR x 0.5	0.44	12.7	1.25	19.0	1.5	22.5	880	225	52	2000	1600
10TR x 0.5	0.44	18.7	1.25	25.4	1.6	29.1	1340	291	105	1400	1700
2TR x 0.75	0.44	10.2	0.9	15.6	1.4	18.6	570	186	31	2000	1400
5TR x 0.75	0.44	13.7	1.25	20.0	1.5	23.5	960	235	78	2000	1700
10TR x 0.75	0.44	20.1	1.25	27.1	1.7	31.0	1510	310	157	1300	1800
2TR x 1.0	0.44	10.5	1.25	16.7	1.4	19.7	710	197	42	2000	1400
5TR x 1.0	0.44	14.1	1.25	20.7	1.5	24.2	1040	242	105	1900	1700
10TR x 1.0	0.44	20.8	1.25	27.7	1.7	31.6	1620	316	210	1200	1700
2TR x 1.5	0.44	11.6	1.25	18.0	1.5	21.5	810	215	63	2000	1600
5TR x 1.5	0.44	15.6	1.25	22.1	1.6	25.8	1180	258	157	1700	1700
10TR x 1.5	0.44	23.0	1.6	31.0	1.8	35.1	2090	351	315	900	1700
2TR x 2.5	0.53	14.5	1.25	21.1	1.5	24.6	1020	246	105	1900	1700
5TR x 2.5	0.53	19.5	1.25	26.5	1.7	30.4	1580	304	262	1200	1600
10TR x 2.5	0.53	28.8	1.6	37.3	1.9	41.6	2800	416	525	700	1800

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	11.1	1.25	17.5	1.4	20.8	730	208	28	2000	1500
5QD x 0.5	0.44	15.0	1.25	21.5	1.5	25.0	1030	250	70	1900	1700
10QD x 0.5	0.44	22.1	1.25	29.0	1.7	32.9	1600	329	140	1200	1800
2QD x 0.75	0.44	12.0	1.25	18.4	1.5	21.9	800	219	42	2000	1600
5QD x 0.75	0.44	16.1	1.25	22.7	1.6	26.4	1150	264	105	1700	1700
10QD x 0.75	0.44	23.8	1.6	31.9	1.8	36.0	2000	360	210	1000	1800
2QD x 1.0	0.44	12.4	1.25	18.8	1.5	22.3	840	223	56	2000	1600
5QD x 1.0	0.44	16.7	1.25	23.4	1.6	27.1	1240	271	140	1600	1700
10QD x 1.0	0.44	24.6	1.6	32.6	1.8	36.7	2150	367	280	900	1700
2QD x 1.5	0.44	13.7	1.25	20.3	1.5	23.8	950	238	84	2000	1700
5QD x 1.5	0.44	18.4	1.25	25.2	1.6	28.9	1420	289	210	1400	1700
10QD x 1.5	0.44	27.2	1.6	35.5	1.9	39.8	2520	398	420	700	1700
2QD x 2.5	0.53	17.2	1.25	24.0	1.6	27.7	1230	277	140	1600	1700
5QD x 2.5	0.53	23.1	1.6	31.2	1.8	35.3	2100	353	350	900	1700
10QD x 2.5	0.53	34.2	2.0	43.8	2.1	48.5	3790	485	700	500	1700

Armoured (SWB) Overall Screened, Hydrocarbon Resistant Instrumentation Cables

PE/ALUPAC/SWB/PVC-FR, XLPE/ALUPAC/SWB/PVC-FR
PE/ALUPAC/SWB/LSHF, XLPE/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 0.5	0.44	7.0	0.3	9.2	1.3	12.0	200	120	7	2000	1100
2PR x 0.5	0.44	9.7	0.3	11.9	1.3	14.7	280	147	14	2000	1300
5PR x 0.5	0.44	12.4	0.3	14.6	1.4	17.6	400	176	35	2000	1400
10PR x 0.5	0.44	17.3	0.3	19.5	1.5	23.0	620	230	70	2000	1600
20PR x 0.5	0.44	22.2	0.4	24.8	1.6	28.5	970	285	140	2000	2000
1PR x 0.75	0.44	7.4	0.3	9.6	1.3	12.4	210	124	10	2000	1100
2PR x 0.75	0.44	10.5	0.3	12.7	1.3	15.5	320	155	21	2000	1300
5PR x 0.75	0.44	13.4	0.3	15.6	1.4	18.6	450	186	52	2000	1400
10PR x 0.75	0.44	18.5	0.3	20.7	1.5	24.2	700	242	105	2000	1700
20PR x 0.75	0.44	23.9	0.4	26.5	1.6	30.2	1130	302	210	1700	1900
1PR x 1.0	0.44	7.5	0.3	9.7	1.3	12.5	220	125	14	2000	1100
2PR x 1.0	0.44	10.8	0.3	13.0	1.4	16.0	340	160	28	2000	1400
5PR x 1.0	0.44	13.7	0.3	15.9	1.4	18.9	490	189	70	2000	1400
10PR x 1.0	0.44	19.2	0.4	21.8	1.5	25.3	830	253	140	2000	1800
20PR x 1.0	0.44	24.6	0.4	27.2	1.7	31.1	1260	311	280	1500	1900
1PR x 1.5	0.44	8.1	0.3	10.3	1.3	13.1	240	131	21	2000	1200
2PR x 1.5	0.44	11.7	0.3	13.9	1.4	16.9	380	169	42	2000	1400
5PR x 1.5	0.44	14.9	0.3	17.1	1.5	20.6	580	206	105	2000	1500
10PR x 1.5	0.44	21.0	0.4	23.6	1.6	27.3	990	273	210	2000	1900
20PR x 1.5	0.44	27.2	0.4	29.8	1.7	33.7	1550	337	420	1200	1900
1PR x 2.5	0.53	9.7	0.3	11.9	1.3	14.7	300	147	35	2000	1300
2PR x 2.5	0.53	14.2	0.3	16.4	1.4	19.4	500	194	70	2000	1400
5PR x 2.5	0.53	18.3	0.3	20.5	1.5	24.0	770	240	175	2000	1700
10PR x 2.5	0.53	26.1	0.4	28.7	1.7	32.6	1390	326	350	1400	1900
20PR x 2.5	0.53	33.9	0.4	36.5	1.9	40.8	2250	408	700	800	1900

Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1TR x 0.5	0.44	7.3	0.3	9.5	1.3	12.3	220	123	10	2000	1100
2TR x 0.5	0.44	11.0	0.3	13.2	1.3	16.0	330	160	21	2000	1400
5TR x 0.5	0.44	14.0	0.3	16.2	1.4	19.2	480	192	52	2000	1400
10TR x 0.5	0.44	19.4	0.4	22.0	1.5	25.5	810	255	105	2000	1800
1TR x 0.75	0.44	7.7	0.3	9.9	1.3	12.7	230	127	15	2000	1100
2TR x 0.75	0.44	11.6	0.3	13.8	1.4	16.8	370	168	31	2000	1400
5TR x 0.75	0.44	14.9	0.3	17.1	1.4	20.1	540	201	78	2000	1400
10TR x 0.75	0.44	20.9	0.4	23.5	1.6	27.2	940	272	157	2000	1900
1TR x 1.0	0.44	7.9	0.3	10.1	1.3	12.9	240	129	21	2000	1100
2TR x 1.0	0.44	11.9	0.3	14.1	1.4	17.1	390	171	42	2000	1400
5TR x 1.0	0.44	15.3	0.3	17.5	1.5	21.0	600	210	105	2000	1500
10TR x 1.0	0.44	21.5	0.4	24.1	1.6	27.8	1030	278	210	1900	1900
1TR x 1.5	0.44	8.5	0.3	10.7	1.3	13.5	270	135	31	2000	1200
2TR x 1.5	0.44	13.1	0.3	15.3	1.4	18.3	460	183	63	2000	1400
5TR x 1.5	0.44	16.8	0.3	19.0	1.5	22.5	720	225	157	2000	1600
10TR x 1.5	0.44	23.7	0.4	26.3	1.7	30.2	1270	302	315	1500	1900
1TR x 2.5	0.53	10.2	0.3	12.4	1.3	15.2	340	152	52	2000	1300
2TR x 2.5	0.53	16.0	0.3	18.2	1.5	21.7	610	217	105	2000	1600
5TR x 2.5	0.53	20.7	0.4	23.3	1.6	27.0	1060	270	262	1800	1800
10TR x 2.5	0.53	29.6	0.4	32.2	1.8	36.3	1810	363	525	1100	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1QD x 0.5	0.44	7.9	0.3	10.1	1.3	12.9	240	129	14	2000	1100
2QD x 0.5	0.44	13.5	0.3	15.7	1.4	18.7	420	187	28	2000	1400
5QD x 0.5	0.44	17.3	0.3	19.5	1.5	23.0	610	230	70	2000	1600
10QD x 0.5	0.44	24.4	0.4	27.0	1.6	30.7	1050	307	140	1900	2240
1QD x 0.75	0.44	8.3	0.3	10.5	1.3	13.3	260	133	21	2000	1200
2QD x 0.75	0.44	14.3	0.3	16.5	1.4	19.5	460	195	42	2000	1400
5QD x 0.75	0.44	18.4	0.3	20.6	1.5	24.1	690	241	105	2000	1700
10QD x 0.75	0.44	26.3	0.4	28.9	1.7	32.8	1230	328	210	1600	2000
1QD x 1.0	0.44	8.5	0.3	10.7	1.3	13.5	270	135	28	2000	1200
2QD x 1.0	0.44	14.7	0.3	16.9	1.4	19.9	490	199	56	2000	1400
5QD x 1.0	0.44	19.0	0.4	21.6	1.5	25.1	810	251	140	2000	1800
10QD x 1.0	0.44	27.1	0.4	29.7	1.7	33.6	1350	336	280	1400	2000
1QD x 1.5	0.44	9.2	0.3	11.4	1.3	14.2	300	142	42	2000	1200
2QD x 1.5	0.44	16.2	0.3	18.4	1.5	21.9	580	219	84	2000	1600
5QD x 1.5	0.44	20.9	0.4	23.5	1.6	27.2	990	272	210	2000	1900
10QD x 1.5	0.44	29.9	0.4	32.5	1.8	36.6	1660	366	420	1200	2000
1QD x 2.5	0.53	11.1	0.3	13.3	1.4	16.3	400	163	70	2000	1400
2QD x 2.5	0.53	19.9	0.4	22.5	1.6	26.2	840	262	140	2000	1900
5QD x 2.5	0.53	26.0	0.4	28.6	1.7	32.5	1380	325	350	1400	1900
10QD x 2.5	0.53	37.3	0.4	39.9	2.0	44.4	2400	444	700	800	2000

Armoured (SWB) Individual & Overall Screened, Hydrocarbon Resistant Instrumentation Cables

PE/IS/ALUPAC/SWB/PVC-FR, XLPE/IS/ALUPAC/SWB/PVC-FR
PE/IS/ALUPAC/SWB/LSHF, XLPE/IS/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair/Triad/Quad	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Triad	Black, White, Red (with numbering for multitriads)
Quad	Black, Blue, Green, Brown (with numbering for multiquads)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 0.5	0.44	8.3	0.3	13.3	1.3	16.1	330	161	14	2000	1400
5PR x 0.5	0.44	11.2	0.3	16.3	1.4	19.3	480	193	35	2000	1400
10PR x 0.5	0.44	16.5	0.4	22.2	1.5	25.7	810	257	70	2000	1800
20PR x 0.5	0.44	21.9	0.4	28.0	1.7	31.9	1240	319	140	1600	2000
2PR x 0.75	0.44	9.0	0.3	13.9	1.4	16.9	370	169	21	2000	1400
5PR x 0.75	0.44	12.1	0.3	17.2	1.4	20.5	530	205	52	2000	1400
10PR x 0.75	0.44	17.8	0.4	23.7	1.6	27.4	920	274	105	2000	1900
20PR x 0.75	0.44	23.6	0.4	29.9	1.7	33.8	1410	338	210	1400	2000
2PR x 1.0	0.44	9.3	0.3	14.2	1.4	17.2	380	172	28	2000	1400
5PR x 1.0	0.44	12.4	0.3	17.6	1.4	20.9	570	209	70	2000	1500
10PR x 1.0	0.44	18.3	0.4	24.2	1.6	27.9	990	279	140	2000	1900
20PR x 1.0	0.44	24.3	0.4	30.7	1.7	34.6	1540	346	280	1300	2000
2PR x 1.5	0.44	10.2	0.3	15.2	1.4	18.2	430	182	42	2000	1400
5PR x 1.5	0.44	13.7	0.3	19.1	1.5	22.6	670	226	105	2000	1600
10PR x 1.5	0.44	20.2	0.4	26.4	1.7	30.3	1180	303	210	1700	1900
20PR x 1.5	0.44	26.9	0.4	33.4	1.8	37.5	1850	375	420	1000	1900
2PR x 2.5	0.53	12.8	0.3	17.9	1.5	21.4	560	214	70	2000	1500
5PR x 2.5	0.53	17.2	0.4	23.1	1.6	26.8	950	268	175	2000	1900
10PR x 2.5	0.53	25.4	0.4	31.9	1.8	36.0	1600	360	350	1200	2000
20PR x 2.5	0.53	33.7	0.4	40.8	2.0	45.3	2610	453	700	700	1900

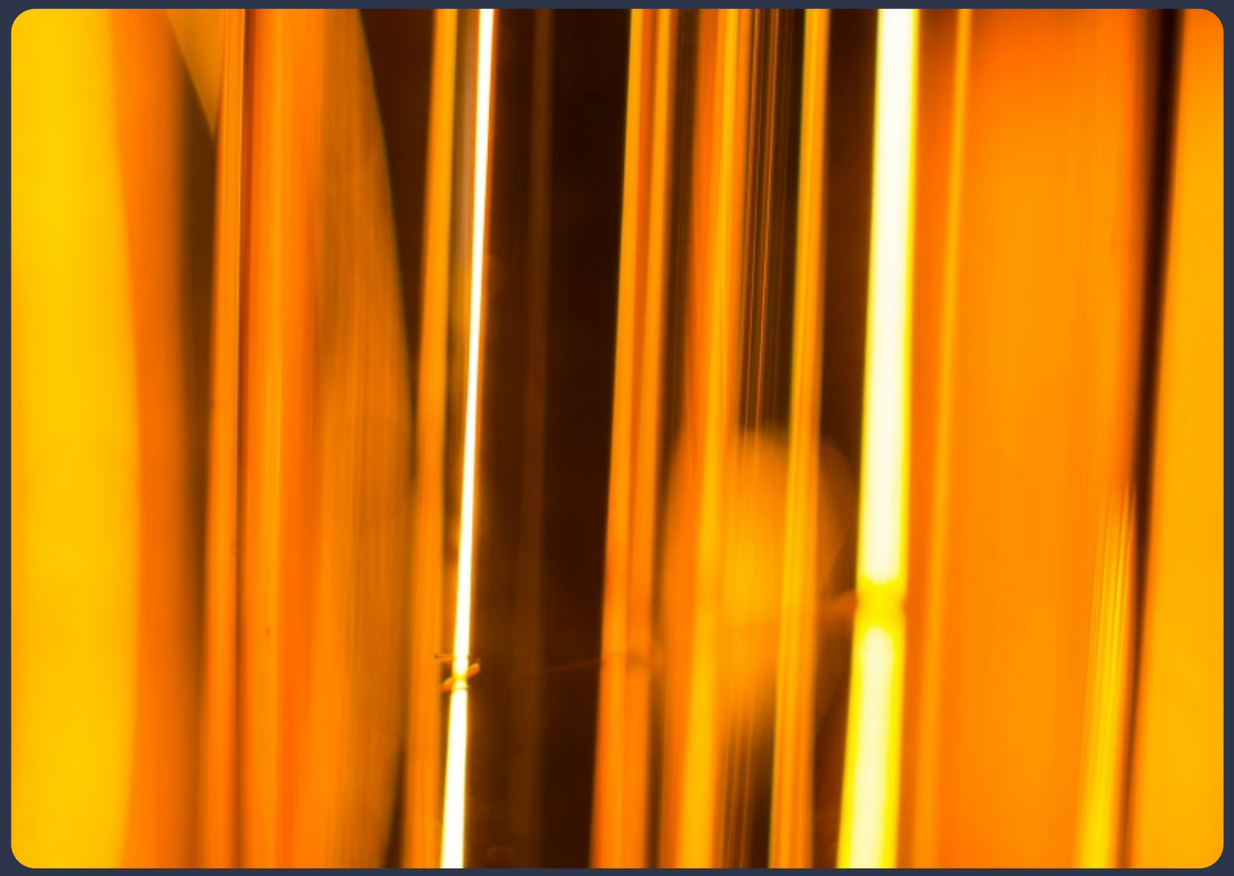
Range and Dimensions (Triad)

Triad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2TR x 0.5	0.44	9.4	0.3	14.4	1.4	17.4	380	174	21	2000	1400
5TR x 0.5	0.44	12.7	0.3	17.8	1.4	21.1	560	211	52	2000	1500
10TR x 0.5	0.44	18.7	0.4	24.6	1.6	28.3	980	283	105	2000	2000
2TR x 0.75	0.44	10.2	0.3	15.1	1.4	18.1	420	181	31	2000	1400
5TR x 0.75	0.44	13.7	0.3	18.8	1.5	22.3	640	223	78	2000	1600
10TR x 0.75	0.44	20.1	0.4	26.2	1.6	29.9	1110	299	157	1800	2000
2TR x 1.0	0.44	10.5	0.3	15.4	1.4	18.4	440	184	42	2000	1400
5TR x 1.0	0.44	14.1	0.3	19.4	1.5	22.9	690	229	105	2000	1600
10TR x 1.0	0.44	20.8	0.4	26.9	1.7	30.8	1220	308	210	1600	1900
2TR x 1.5	0.44	11.6	0.3	16.7	1.4	19.7	510	197	63	2000	1400
5TR x 1.5	0.44	15.6	0.3	20.9	1.5	24.4	810	244	157	2000	1700
10TR x 1.5	0.44	23.0	0.4	29.3	1.7	33.2	1450	332	315	1300	1900
2TR x 2.5	0.53	14.5	0.3	19.8	1.5	23.3	670	233	105	2000	1600
5TR x 2.5	0.53	19.5	0.4	25.6	1.6	29.3	1180	293	262	1700	1900
10TR x 2.5	0.53	28.8	0.4	35.5	1.9	39.8	2040	398	525	900	1900

Range and Dimensions (Quad)

Quad Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2QD x 0.5	0.44	11.1	0.3	16.3	1.4	19.3	450	193	28	2000	1400
5QD x 0.5	0.44	15.0	0.3	20.3	1.5	23.8	680	238	70	2000	1700
10QD x 0.5	0.44	22.1	0.4	28.2	1.7	32.1	1180	321	140	1600	2000
2QD x 0.75	0.44	12.0	0.3	17.1	1.4	20.1	490	201	42	2000	1400
5QD x 0.75	0.44	16.1	0.4	21.9	1.5	25.4	810	254	105	2000	1800
10QD x 0.75	0.44	23.8	0.4	30.1	1.7	34.0	1350	340	210	1400	2000
2QD x 1.0	0.44	12.4	0.3	17.5	1.4	20.8	520	208	56	2000	1500
5QD x 1.0	0.44	16.7	0.4	22.6	1.6	26.3	900	263	140	2000	1900
10QD x 1.0	0.44	24.6	0.4	30.9	1.7	34.8	1480	348	280	1300	2000
2QD x 1.5	0.44	13.7	0.3	19.0	1.5	22.5	620	225	84	2000	1600
5QD x 1.5	0.44	18.4	0.4	24.3	1.6	28.0	1060	280	210	1900	1900
10QD x 1.5	0.44	27.2	0.4	33.7	1.8	37.8	1800	378	420	1100	2000
2QD x 2.5	0.53	17.2	0.4	23.1	1.6	26.8	880	268	140	2000	1900
5QD x 2.5	0.53	23.1	0.4	29.4	1.7	33.3	1460	333	350	1300	1900
10QD x 2.5	0.53	34.2	0.4	41.3	2.0	45.8	2570	458	700	700	1900

Part 4: Control Cables Flame Retardant Range



Application for Flame Retardant Control Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores	Ω/km	36.00	24.50	18.10	12.10	7.41
Max. Conductor Resistance (Tinned) - Cores	Ω/km	36.70	24.80	18.20	12.20	7.56
Min. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	MΩ.km MΩ.km	10 1000	10 1000	10 1000	10 1000	10 1000
Max. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	nF/km nF/km	250 150	250 150	250 150	250 150	250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured Cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

IEC 60331-21

Good

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

8 D

Pb

Technical Data (For Armoured Cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

IEC 60331-21

Excellent

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct
buried

10 D

Pb

Non-armoured Overall Screened, Flame Retardant Control Cables

PE/OSCR/PVC-FR, XLPE/OSCR/PVC-FR
PE/OSCR/LSHF, XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

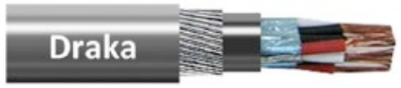
Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	0.9	7.8	80	62	21	2000	900
3 x 1.5	0.44	0.9	8.2	110	66	31	2000	900
4 x 1.5	0.44	1.0	9.2	140	74	42	2000	900
5 x 1.5	0.44	1.0	9.9	150	79	52	2000	900
6 x 1.5	0.44	1.0	10.8	180	86	63	2000	1000
7 x 1.5	0.44	1.0	10.8	200	86	73	2000	1000
10 x 1.5	0.44	1.1	13.7	280	110	105	2000	1200
12 x 1.5	0.44	1.1	14.2	320	114	126	2000	1200
19 x 1.5	0.44	1.2	16.7	470	134	199	2000	1400
20 x 1.5	0.44	1.2	17.6	490	141	210	2000	1400
27 x 1.5	0.44	1.3	20.1	650	161	283	2000	1400
30 x 1.5	0.44	1.3	21.1	710	169	315	2000	1500
37 x 1.5	0.44	1.4	22.9	860	183	388	2000	1600
2 x 2.5	0.53	1.0	9.2	120	74	35	2000	900
3 x 2.5	0.53	1.0	9.8	150	78	52	2000	900
4 x 2.5	0.53	1.0	10.7	190	86	70	2000	1000
5 x 2.5	0.53	1.1	11.8	220	94	87	2000	1100
6 x 2.5	0.53	1.1	12.8	260	102	105	2000	1100
7 x 2.5	0.53	1.1	12.8	290	102	122	2000	1100
10 x 2.5	0.53	1.2	16.4	410	131	175	2000	1400
12 x 2.5	0.53	1.2	16.9	470	135	210	2000	1400
19 x 2.5	0.53	1.3	20.0	700	160	332	2000	1400
20 x 2.5	0.53	1.4	21.6	750	173	350	2000	1600
27 x 2.5	0.53	1.5	24.6	990	197	472	2000	1700
30 x 2.5	0.53	1.5	25.5	1080	204	525	1800	1700
37 x 2.5	0.53	1.6	27.6	1310	221	647	1500	1700
2 x 4	0.53	1.0	10.3	160	82	56	2000	1000
3 x 4	0.53	1.0	10.9	200	87	84	2000	1000
4 x 4	0.53	1.1	12.2	260	98	112	2000	1100
5 x 4	0.53	1.1	13.3	310	106	140	2000	1200
6 x 4	0.53	1.1	14.4	370	115	168	2000	1200
7 x 4	0.53	1.1	14.4	400	115	196	2000	1200
10 x 4	0.53	1.3	18.7	590	150	280	2000	1400
12 x 4	0.53	1.3	19.4	680	155	336	2000	1400
19 x 4	0.53	1.4	23.2	1020	186	532	1900	1600
20 x 4	0.53	1.5	24.6	1090	197	560	1800	1600
27 x 4	0.53	1.6	28.0	1440	224	756	1300	1600
30 x 4	0.53	1.6	29.1	1580	233	840	1200	1600
37 x 4	0.53	1.7	31.6	1920	253	1036	1000	1600

Armoured (SWA) Overall Screened, Flame Retardant Control Cables

PE/OSCR/PVC/SWA/PVC-FR, XLPE/OSCR/PVC/SWA/PVC-FR
PE/OSCR/LSHF/SWA/LSHF, XLPE/OSCR/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl Chloride, PVC or Low Smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	7.6	0.9	9.3	1.3	12.1	290	121	21	2000	1100
3 x 1.5	0.44	8.0	0.9	9.8	1.3	12.6	330	126	31	2000	1100
4 x 1.5	0.44	9.0	0.9	10.7	1.4	13.7	380	137	42	2000	1200
5 x 1.5	0.44	9.7	0.9	11.5	1.4	14.5	420	145	52	2000	1200
6 x 1.5	0.44	10.6	0.9	12.3	1.4	15.3	470	153	63	2000	1300
7 x 1.5	0.44	10.6	0.9	12.3	1.4	15.3	480	153	73	2000	1300
10 x 1.5	0.44	13.5	1.25	16.0	1.5	19.2	750	192	105	2000	1400
12 x 1.5	0.44	14.0	1.25	16.4	1.5	19.6	810	196	126	2000	1400
19 x 1.5	0.44	16.5	1.25	18.9	1.5	22.4	1040	224	199	1900	1600
20 x 1.5	0.44	17.4	1.25	19.8	1.6	23.5	1100	235	210	1800	1600
27 x 1.5	0.44	19.9	1.25	22.3	1.6	26.0	1340	260	283	1400	1600
30 x 1.5	0.44	20.6	1.25	23.0	1.6	26.7	1430	267	315	1400	1600
37 x 1.5	0.44	22.4	1.25	24.8	1.7	28.7	1650	287	388	1200	1600
2 x 2.5	0.53	9.0	0.9	10.8	1.4	13.8	370	138	35	2000	1200
3 x 2.5	0.53	9.6	0.9	11.3	1.4	14.3	410	143	52	2000	1200
4 x 2.5	0.53	10.5	0.9	12.2	1.4	15.2	470	152	70	2000	1300
5 x 2.5	0.53	11.4	0.9	13.2	1.4	16.2	530	162	87	2000	1400
6 x 2.5	0.53	12.6	1.25	15.1	1.5	18.3	710	183	105	2000	1400
7 x 2.5	0.53	12.6	1.25	15.1	1.5	18.3	730	183	122	2000	1400
10 x 2.5	0.53	16.2	1.25	18.6	1.5	22.1	970	221	175	2000	1600
12 x 2.5	0.53	16.7	1.25	19.2	1.6	22.9	1060	229	210	1800	1600
19 x 2.5	0.53	19.8	1.25	22.2	1.6	25.9	1390	259	332	1400	1600
20 x 2.5	0.53	21.1	1.25	23.5	1.7	27.4	1500	274	350	1300	1600
27 x 2.5	0.53	23.9	1.25	26.3	1.7	30.2	1820	302	472	1100	1600
30 x 2.5	0.53	25.0	1.6	28.1	1.8	32.2	2130	322	525	900	1600
37 x 2.5	0.53	26.9	1.6	30.3	1.8	34.4	2430	344	647	800	1600
2 x 4	0.53	10.1	0.9	11.9	1.4	14.9	440	149	56	2000	1300
3 x 4	0.53	10.7	0.9	12.5	1.4	15.5	490	155	84	2000	1300
4 x 4	0.53	12.0	0.9	13.7	1.4	16.7	590	167	112	2000	1400
5 x 4	0.53	13.1	1.25	15.5	1.5	18.7	770	187	140	2000	1400
6 x 4	0.53	14.2	1.25	16.7	1.5	19.9	860	199	168	2000	1400
7 x 4	0.53	14.2	1.25	16.7	1.5	19.9	900	199	196	2000	1400
10 x 4	0.53	18.5	1.25	21.0	1.6	24.7	1230	247	280	1600	1600
12 x 4	0.53	19.2	1.25	21.6	1.6	25.3	1350	253	336	1400	1500
19 x 4	0.53	22.7	1.25	25.1	1.7	29.0	1820	290	532	1100	1500
20 x 4	0.53	24.1	1.25	26.6	1.7	30.5	1940	305	560	1000	1500
27 x 4	0.53	27.5	1.6	30.9	1.8	35.0	2610	350	756	700	1500
30 x 4	0.53	28.6	1.6	31.9	1.9	36.2	2810	362	840	700	1500
37 x 4	0.53	31.1	1.6	34.4	1.9	38.7	3240	387	1036	600	1500

Armoured (SWB) Overall Screened, Flame Retardant Control Cables

PE/OSCR/PVC/SWB/PVC-FR, XLPE/OSCR/PVC/SWB/PVC-FR
PE/OSCR/LSHF/SWB/LSHF, XLPE/OSCR/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke Halogen Free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

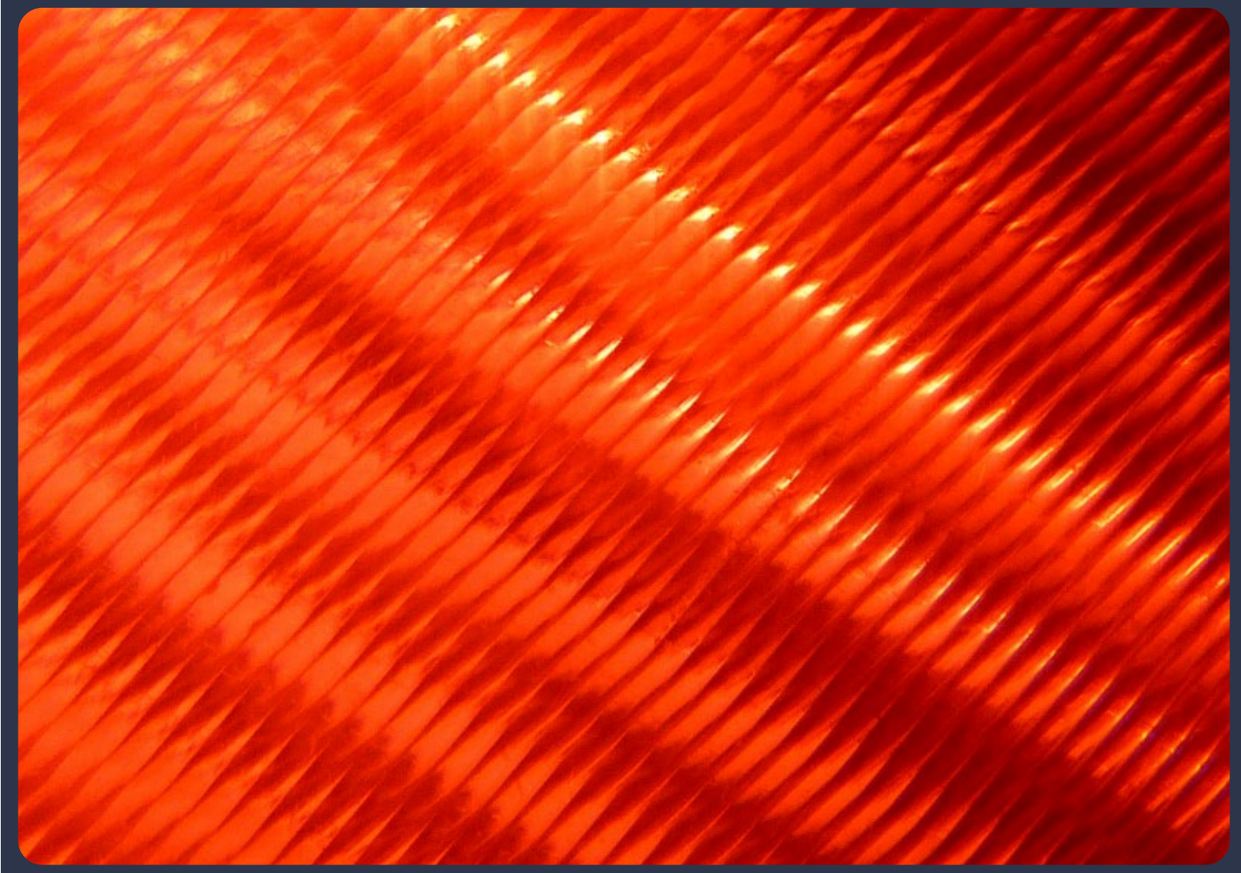
2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	7.6	0.3	8.8	1.3	11.6	210	116	21	2000	1000
3 x 1.5	0.44	8.0	0.3	9.2	1.3	12.0	240	120	31	2000	1100
4 x 1.5	0.44	9.0	0.3	10.2	1.3	13.0	280	130	42	2000	1200
5 x 1.5	0.44	9.7	0.3	10.9	1.4	13.9	310	139	52	2000	1200
6 x 1.5	0.44	10.6	0.3	11.8	1.4	14.8	350	148	63	2000	1300
7 x 1.5	0.44	10.6	0.3	11.8	1.4	14.8	370	148	73	2000	1300
10 x 1.5	0.44	13.5	0.3	14.7	1.4	17.7	490	177	105	2000	1400
12 x 1.5	0.44	14.0	0.3	15.2	1.5	18.4	550	184	126	2000	1400
19 x 1.5	0.44	16.5	0.3	17.7	1.5	21.2	730	212	199	2000	1500
20 x 1.5	0.44	17.4	0.3	18.6	1.5	22.1	770	221	210	2000	1600
27 x 1.5	0.44	19.9	0.3	21.1	1.6	24.8	980	248	283	2000	1800
30 x 1.5	0.44	20.6	0.4	22.2	1.6	25.9	1100	259	315	1800	1700
37 x 1.5	0.44	22.4	0.4	24.0	1.6	27.7	1280	277	388	1500	1700
2 x 2.5	0.53	9.0	0.3	10.2	1.3	13.0	260	130	35	2000	1200
3 x 2.5	0.53	9.6	0.3	10.8	1.4	13.8	310	138	52	2000	1200
4 x 2.5	0.53	10.5	0.3	11.7	1.4	14.7	360	147	70	2000	1300
5 x 2.5	0.53	11.4	0.3	12.6	1.4	15.6	400	156	87	2000	1300
6 x 2.5	0.53	12.6	0.3	13.8	1.4	16.8	460	168	105	2000	1400
7 x 2.5	0.53	12.6	0.3	13.8	1.4	16.8	490	168	122	2000	1400
10 x 2.5	0.53	16.2	0.3	17.4	1.5	20.9	670	209	175	2000	1500
12 x 2.5	0.53	16.7	0.3	17.9	1.5	21.4	740	214	210	2000	1500
19 x 2.5	0.53	19.8	0.3	21.0	1.6	24.7	1020	247	332	1900	1700
20 x 2.5	0.53	21.1	0.4	22.7	1.6	26.4	1150	264	350	1700	1700
27 x 2.5	0.53	23.9	0.4	25.5	1.7	29.4	1440	294	472	1300	1700
30 x 2.5	0.53	25.0	0.4	26.6	1.7	30.5	1560	305	525	1200	1600
37 x 2.5	0.53	26.9	0.4	28.5	1.8	32.6	1830	326	647	1000	1600
2 x 4	0.53	10.1	0.3	11.3	1.4	14.3	320	143	56	2000	1200
3 x 4	0.53	10.7	0.3	11.9	1.4	14.9	380	149	84	2000	1300
4 x 4	0.53	12.0	0.3	13.2	1.4	16.2	450	162	112	2000	1400
5 x 4	0.53	13.1	0.3	14.3	1.4	17.3	520	173	140	2000	1400
6 x 4	0.53	14.2	0.3	15.4	1.5	18.6	600	186	168	2000	1400
7 x 4	0.53	14.2	0.3	15.4	1.5	18.6	640	186	196	2000	1400
10 x 4	0.53	18.5	0.3	19.7	1.6	23.4	890	234	280	2000	1600
12 x 4	0.53	19.2	0.3	20.4	1.6	24.1	990	241	336	2000	1700
19 x 4	0.53	22.7	0.4	24.3	1.7	28.2	1460	282	532	1300	1600
20 x 4	0.53	24.1	0.4	25.7	1.7	29.6	1550	296	560	1200	1600
27 x 4	0.53	27.5	0.4	29.1	1.8	33.2	1990	332	756	1000	1700
30 x 4	0.53	28.6	0.4	30.2	1.8	34.3	2140	343	840	900	1600
37 x 4	0.53	31.1	0.4	32.7	1.9	37.0	2550	370	1036	700	1600

Part 5:
Control Cables
Fire Resistant Range



Application for Fire Resistant Control cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas, emergency and critical systems where requirement for fire resistance exists. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores	Ω/km	36.00	24.50	18.10	12.10	7.41
Max. Conductor Resistance (Tinned) - Cores	Ω/km	36.70	24.80	18.20	12.20	7.56
Min. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	MΩ.km MΩ.km	10 1000	10 1000	10 1000	10 1000	10 1000
Max. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	nF/km nF/km	250 150	250 150	250 150	250 150	250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

IEC 60331-21

Good

Good

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air (Indoor)

8 D

Pb

Technical Data (For Armoured cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

IEC 60331-21

Excellent

Good

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

10 D

Pb

Non-armoured Overall Screened, Fire Resistant Control Cables

MGT/XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

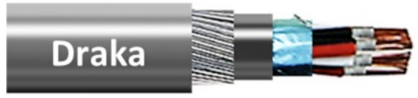
Range and Dimensions (Cores)

Pair Cables	Minimum insulation thickness	Nominal sheath thickness	Approx. outer diameter	Approx. Cable weight	Minimum bending radius	Maximum pulling tension	Maximum length per drum	Drum size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	1.0	9.5	110	76	21	2000	900
3 x 1.5	0.44	1.0	10.1	140	81	31	2000	900
4 x 1.5	0.44	1.0	11.0	170	88	42	2000	1000
5 x 1.5	0.44	1.0	12.0	190	96	52	2000	1100
6 x 1.5	0.44	1.1	13.2	230	106	63	2000	1200
7 x 1.5	0.44	1.1	13.2	250	106	73	2000	1200
10 x 1.5	0.44	1.2	16.9	350	135	105	2000	1400
12 x 1.5	0.44	1.2	17.5	400	140	126	2000	1400
19 x 1.5	0.44	1.3	20.9	590	167	199	2000	1500
20 x 1.5	0.44	1.3	22.1	620	177	210	2000	1600
27 x 1.5	0.44	1.4	25.1	820	201	283	2000	1800
30 x 1.5	0.44	1.4	26.0	890	208	315	2000	1900
37 x 1.5	0.44	1.5	28.3	1080	226	388	1800	1900
2 x 2.5	0.53	1.0	10.9	150	87	35	2000	1000
3 x 2.5	0.53	1.0	11.6	180	93	52	2000	1000
4 x 2.5	0.53	1.1	12.9	230	103	70	2000	1100
5 x 2.5	0.53	1.1	14.1	270	113	87	2000	1200
6 x 2.5	0.53	1.1	15.4	320	123	105	2000	1300
7 x 2.5	0.53	1.1	15.4	350	123	122	2000	1300
10 x 2.5	0.53	1.3	20.0	510	160	175	2000	1400
12 x 2.5	0.53	1.3	21.0	580	168	210	2000	1500
19 x 2.5	0.53	1.4	24.7	860	198	332	2000	1700
20 x 2.5	0.53	1.4	26.1	910	209	350	2000	1900
27 x 2.5	0.53	1.6	30.0	1210	240	472	1600	1900
30 x 2.5	0.53	1.6	31.1	1320	249	525	1500	1900
37 x 2.5	0.53	1.7	33.7	1610	270	647	1200	1900
2 x 4	0.53	1.0	12.0	190	96	56	2000	1100
3 x 4	0.53	1.1	13.0	250	104	84	2000	1200
4 x 4	0.53	1.1	14.2	300	114	112	2000	1200
5 x 4	0.53	1.2	15.7	370	126	140	2000	1400
6 x 4	0.53	1.2	17.2	440	138	168	2000	1400
7 x 4	0.53	1.2	17.2	480	138	196	2000	1400
10 x 4	0.53	1.3	22.4	680	179	280	2000	1600
12 x 4	0.53	1.4	23.4	800	187	336	2000	1600
19 x 4	0.53	1.5	27.6	1200	221	532	1600	1700
20 x 4	0.53	1.6	29.3	1280	234	560	1500	1800
27 x 4	0.53	1.7	33.4	1690	267	756	1100	1800
30 x 4	0.53	1.7	34.7	1850	278	840	1000	1700
37 x 4	0.53	1.8	37.7	2250	302	1036	800	1700

Armoured (SWA) Overall Screened, Fire Resistant Control Cables

MGT/XLPE/OSCR/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low Smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	9.3	0.9	11.0	1.4	14.0	360	140	21	2000	1200
3 x 1.5	0.44	9.9	0.9	11.6	1.4	14.6	400	146	31	2000	1200
4 x 1.5	0.44	10.8	0.9	12.5	1.4	15.5	460	155	42	2000	1300
5 x 1.5	0.44	11.8	0.9	13.5	1.4	16.5	510	165	52	2000	1400
6 x 1.5	0.44	13.0	0.9	14.7	1.4	17.7	580	177	63	2000	1400
7 x 1.5	0.44	13.0	0.9	14.7	1.4	17.7	600	177	73	2000	1400
10 x 1.5	0.44	16.7	1.25	19.1	1.5	22.6	940	226	105	2000	1600
12 x 1.5	0.44	17.3	1.25	19.7	1.5	23.2	1000	232	126	2000	1600
19 x 1.5	0.44	20.4	1.25	22.8	1.6	26.5	1300	265	199	1500	1600
20 x 1.5	0.44	21.6	1.25	24.0	1.6	27.7	1370	277	210	1400	1600
27 x 1.5	0.44	24.6	1.25	27.1	1.7	31.0	1690	310	283	1100	1600
30 x 1.5	0.44	25.5	1.25	28.0	1.7	31.9	1790	319	315	1100	1700
37 x 1.5	0.44	27.8	1.6	31.1	1.8	35.2	2250	352	388	800	1600
2 x 2.5	0.53	10.7	0.9	12.5	1.4	15.5	440	155	35	2000	1300
3 x 2.5	0.53	11.4	0.9	13.2	1.4	16.2	490	162	52	2000	1400
4 x 2.5	0.53	12.7	0.9	14.5	1.4	17.5	570	175	70	2000	1400
5 x 2.5	0.53	13.9	1.25	16.3	1.5	19.5	760	195	87	2000	1400
6 x 2.5	0.53	15.2	1.25	17.6	1.5	21.1	850	211	105	2000	1500
7 x 2.5	0.53	15.2	1.25	17.6	1.5	21.1	880	211	122	2000	1500
10 x 2.5	0.53	19.8	1.25	22.2	1.6	25.9	1200	259	175	1600	1600
12 x 2.5	0.53	20.5	1.25	22.9	1.6	26.6	1290	266	210	1500	1600
19 x 2.5	0.53	24.2	1.25	26.6	1.7	30.5	1710	305	332	1100	1600
20 x 2.5	0.53	25.6	1.25	28.0	1.7	31.9	1810	319	350	1100	1700
27 x 2.5	0.53	29.3	1.6	32.6	1.8	36.7	2430	367	472	800	1600
30 x 2.5	0.53	30.6	1.6	33.9	1.8	38.0	2600	380	525	700	1600
37 x 2.5	0.53	33.2	1.6	36.6	1.9	40.9	3010	409	647	600	1600
2 x 4	0.53	11.8	0.9	13.5	1.4	16.5	500	165	56	2000	1400
3 x 4	0.53	12.8	0.9	14.5	1.4	17.5	590	175	84	2000	1400
4 x 4	0.53	14.0	1.25	16.4	1.5	19.6	800	196	112	2000	1400
5 x 4	0.53	15.3	1.25	17.8	1.5	21.3	900	213	140	2000	1500
6 x 4	0.53	17.0	1.25	19.4	1.5	22.9	1020	229	168	1900	1600
7 x 4	0.53	17.0	1.25	19.4	1.5	22.9	1060	229	196	1800	1600
10 x 4	0.53	21.9	1.25	24.3	1.6	28.0	1450	280	280	1300	1600
12 x 4	0.53	22.9	1.25	25.3	1.7	29.2	1620	292	336	1200	1600
19 x 4	0.53	27.1	1.6	30.4	1.8	34.5	2350	345	532	800	1600
20 x 4	0.53	28.6	1.6	32.0	1.8	36.1	2470	361	560	800	1600
27 x 4	0.53	32.9	1.6	36.3	1.9	40.6	3090	406	756	600	1600
30 x 4	0.53	34.2	1.6	37.5	1.9	41.8	3290	418	840	600	1600
37 x 4	0.53	37.2	1.6	40.5	2.0	45.0	3840	450	1036	500	1600

Armoured (SWB) Overall Screened, Fire Resistant Control Cables

MGT/XLPE/OSCR/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Fire Proof Layer	: Mica tape
Insulation	: Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Low Smoke Halogen Free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	9.3	0.3	10.5	1.3	13.3	260	133	21	2000	1200
3 x 1.5	0.44	9.9	0.3	11.1	1.3	13.9	290	139	31	2000	1200
4 x 1.5	0.44	10.8	0.3	12.0	1.4	15.0	340	150	42	2000	1300
5 x 1.5	0.44	11.8	0.3	13.0	1.4	16.0	380	160	52	2000	1400
6 x 1.5	0.44	13.0	0.3	14.2	1.4	17.2	440	172	63	2000	1400
7 x 1.5	0.44	13.0	0.3	14.2	1.4	17.2	450	172	73	2000	1400
10 x 1.5	0.44	16.7	0.3	17.9	1.5	21.4	620	214	105	2000	1500
12 x 1.5	0.44	17.3	0.3	18.5	1.5	22.0	680	220	126	2000	1600
19 x 1.5	0.44	20.4	0.4	22.0	1.6	25.7	980	257	199	2000	1800
20 x 1.5	0.44	21.6	0.4	23.2	1.6	26.9	1030	269	210	1900	1900
27 x 1.5	0.44	24.6	0.4	26.2	1.7	30.1	1300	301	283	1500	1900
30 x 1.5	0.44	25.5	0.4	27.1	1.7	31.0	1390	310	315	1400	1900
37 x 1.5	0.44	27.8	0.4	29.4	1.7	33.3	1620	333	388	1200	1900
2 x 2.5	0.53	10.7	0.3	11.9	1.4	14.9	320	149	35	2000	1300
3 x 2.5	0.53	11.4	0.3	12.6	1.4	15.6	360	156	52	2000	1300
4 x 2.5	0.53	12.7	0.3	13.9	1.4	16.9	430	169	70	2000	1400
5 x 2.5	0.53	13.9	0.3	15.1	1.4	18.1	490	181	87	2000	1400
6 x 2.5	0.53	15.2	0.3	16.4	1.5	19.6	560	196	105	2000	1400
7 x 2.5	0.53	15.2	0.3	16.4	1.5	19.6	590	196	122	2000	1400
10 x 2.5	0.53	19.8	0.3	21.0	1.6	24.7	830	247	175	2000	1700
12 x 2.5	0.53	20.5	0.4	22.1	1.6	25.8	970	258	210	2000	1900
19 x 2.5	0.53	24.2	0.4	25.8	1.7	29.7	1330	297	332	1500	1800
20 x 2.5	0.53	25.6	0.4	27.2	1.7	31.1	1400	311	350	1400	1900
27 x 2.5	0.53	29.3	0.4	30.9	1.8	35.0	1770	350	472	1100	1900
30 x 2.5	0.53	30.6	0.4	32.2	1.8	36.3	1930	363	525	1000	1800
37 x 2.5	0.53	33.2	0.4	34.8	1.8	38.9	2260	389	647	800	1700
2 x 4	0.53	11.8	0.3	13.0	1.4	16.0	370	160	56	2000	1400
3 x 4	0.53	12.8	0.3	14.0	1.4	17.0	450	170	84	2000	1400
4 x 4	0.53	14.0	0.3	15.2	1.4	18.2	520	182	112	2000	1400
5 x 4	0.53	15.3	0.3	16.5	1.5	19.7	610	197	140	2000	1400
6 x 4	0.53	17.0	0.3	18.2	1.5	21.7	710	217	168	2000	1600
7 x 4	0.53	17.0	0.3	18.2	1.5	21.7	750	217	196	2000	1600
10 x 4	0.53	21.9	0.4	23.5	1.6	27.2	1100	272	280	1800	1800
12 x 4	0.53	22.9	0.4	24.5	1.6	28.2	1230	282	336	1600	1800
19 x 4	0.53	27.1	0.4	28.7	1.7	32.6	1720	326	532	1100	1700
20 x 4	0.53	28.6	0.4	30.2	1.8	34.3	1830	343	560	1000	1700
27 x 4	0.53	32.9	0.4	34.5	1.8	38.6	2340	386	756	800	1700
30 x 4	0.53	34.2	0.4	35.8	1.9	40.1	2540	401	840	700	1700
37 x 4	0.53	37.2	0.4	38.8	1.9	43.1	3000	431	1036	600	1700

Part 6: Control Cables Hydrocarbon Resistant Range

Application for Hydrocarbon Resistant Control cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas, emergency and critical systems where requirement for fire resistance exists. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - Cores	Ω/km	36.00	24.50	18.10	12.10	7.41
Max. Conductor Resistance (Tinned) - Cores	Ω/km	36.70	24.80	18.20	12.20	7.56
Min. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000	 10 1000	 10 1000
Max. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Armoured (SWA) Overall Screened, Hydrocarbon Resistant Control Cables

PE/ALUPAC/SWA/PVC-FR, XLPE/ALUPAC/SWA/PVC-FR
PE/ALUPAC/SWA/LSHF, XLPE/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	8.3	0.9	11.0	1.3	13.8	350	138	21	2000	1200
3 x 1.5	0.44	8.7	0.9	11.4	1.3	14.2	390	142	31	2000	1200
4 x 1.5	0.44	9.4	0.9	12.2	1.3	15.0	430	150	42	2000	1300
5 x 1.5	0.44	10.4	0.9	13.1	1.4	16.1	490	161	52	2000	1400
6 x 1.5	0.44	11.2	0.9	14.0	1.4	17.0	540	170	63	2000	1400
7 x 1.5	0.44	11.2	0.9	14.0	1.4	17.0	550	170	73	2000	1400
10 x 1.5	0.44	14.2	1.25	17.6	1.5	21.1	840	211	105	2000	1500
12 x 1.5	0.44	14.6	1.25	18.1	1.5	21.6	900	216	126	2000	1600
19 x 1.5	0.44	17.1	1.25	20.6	1.5	24.1	1120	241	199	1700	1600
20 x 1.5	0.44	18.1	1.25	21.5	1.5	25.0	1190	250	210	1600	1600
27 x 1.5	0.44	20.5	1.25	24.0	1.6	27.7	1440	277	283	1300	1600
30 x 1.5	0.44	21.2	1.25	24.7	1.6	28.4	1520	284	315	1300	1600
37 x 1.5	0.44	23.1	1.25	26.5	1.7	30.4	1750	304	388	1100	1600
2 x 2.5	0.53	9.7	0.9	12.4	1.3	15.2	430	152	35	2000	1300
3 x 2.5	0.53	10.2	0.9	13.0	1.4	16.0	480	160	52	2000	1400
4 x 2.5	0.53	11.1	0.9	13.9	1.4	16.9	540	169	70	2000	1400
5 x 2.5	0.53	12.1	0.9	14.8	1.4	17.8	600	178	87	2000	1400
6 x 2.5	0.53	13.3	0.9	16.0	1.4	19.0	670	190	105	2000	1400
7 x 2.5	0.53	13.3	0.9	16.0	1.4	19.0	690	190	122	2000	1400
10 x 2.5	0.53	16.9	1.25	20.3	1.5	23.8	1060	238	175	1800	1600
12 x 2.5	0.53	17.4	1.25	20.8	1.5	24.3	1140	243	210	1700	1600
19 x 2.5	0.53	20.4	1.25	23.9	1.6	27.6	1490	276	332	1300	1600
20 x 2.5	0.53	21.6	1.25	25.0	1.6	28.7	1570	287	350	1200	1600
27 x 2.5	0.53	24.5	1.25	28.0	1.7	31.9	1910	319	472	1000	1600
30 x 2.5	0.53	25.6	1.25	29.1	1.7	33.0	2050	330	525	900	1600
37 x 2.5	0.53	27.6	1.6	32.0	1.8	36.1	2550	361	647	700	1500
2 x 4	0.53	10.8	0.9	13.5	1.4	16.5	500	165	56	2000	1400
3 x 4	0.53	11.4	0.9	14.1	1.4	17.1	560	171	84	2000	1400
4 x 4	0.53	12.6	0.9	15.3	1.4	18.3	650	183	112	2000	1400
5 x 4	0.53	13.7	1.25	17.1	1.5	20.6	860	206	140	2000	1500
6 x 4	0.53	14.9	1.25	18.3	1.5	21.8	960	218	168	2000	1600
7 x 4	0.53	14.9	1.25	18.3	1.5	21.8	990	218	196	2000	1600
10 x 4	0.53	19.2	1.25	22.6	1.6	26.3	1330	263	280	1500	1600
12 x 4	0.53	19.8	1.25	23.3	1.6	27.0	1440	270	336	1300	1600
19 x 4	0.53	23.3	1.25	26.7	1.7	30.6	1910	306	532	1000	1600
20 x 4	0.53	24.8	1.25	28.2	1.7	32.1	2030	321	560	900	1600
27 x 4	0.53	28.2	1.6	32.5	1.8	36.6	2710	366	756	700	1600
30 x 4	0.53	29.2	1.6	33.6	1.8	37.7	2890	377	840	600	1500
37 x 4	0.53	31.7	1.6	36.1	1.9	40.4	3340	404	1036	600	1600

Armoured (SWB) Overall Screened, Hydrocarbon Resistant Control Cables

PE/ALUPAC/SWB/PVC-FR, XLPE/ALUPAC/SWB/PVC-FR
PE/ALUPAC/SWB/LSHF, XLPE/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Core	: Twisted
Assembly	: Concentric layers
Overall screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

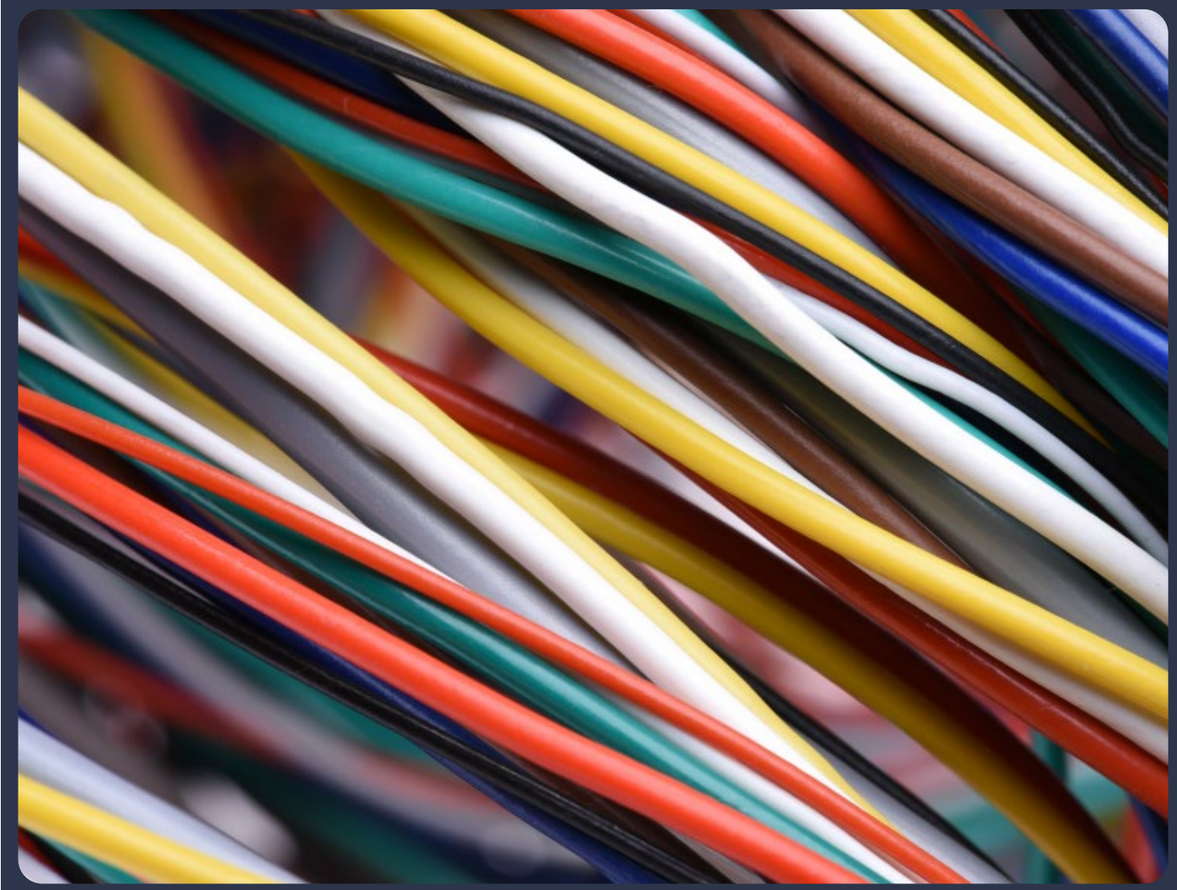
2 Core	Brown, Blue
3 Core	Brown, Black, Grey
4 Core	Brown, Black, Grey, Blue
Multicore	Black with core numbering
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Cores)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2 x 1.5	0.44	8.1	0.3	10.3	1.3	13.1	250	131	21	2000	1200
3 x 1.5	0.44	8.5	0.3	10.7	1.3	13.5	280	135	31	2000	1200
4 x 1.5	0.44	9.2	0.3	11.4	1.3	14.2	310	142	42	2000	1200
5 x 1.5	0.44	10.1	0.3	12.3	1.3	15.1	350	151	52	2000	1300
6 x 1.5	0.44	10.9	0.3	13.1	1.4	16.1	390	161	63	2000	1400
7 x 1.5	0.44	10.9	0.3	13.1	1.4	16.1	410	161	73	2000	1400
10 x 1.5	0.44	13.8	0.3	16.0	1.4	19.0	530	190	105	2000	1400
12 x 1.5	0.44	14.2	0.3	16.4	1.4	19.4	580	194	126	2000	1400
19 x 1.5	0.44	16.6	0.3	18.8	1.5	22.3	770	223	199	2000	1600
20 x 1.5	0.44	17.5	0.3	19.7	1.5	23.2	810	232	210	2000	1600
27 x 1.5	0.44	19.9	0.4	22.5	1.6	26.2	1070	262	283	1800	1800
30 x 1.5	0.44	20.6	0.4	23.2	1.6	26.9	1140	269	315	1700	1800
37 x 1.5	0.44	22.4	0.4	25.0	1.6	28.7	1320	287	388	1500	1800
2 x 2.5	0.53	9.7	0.3	11.9	1.3	14.7	310	147	35	2000	1300
3 x 2.5	0.53	10.2	0.3	12.4	1.3	15.2	350	152	52	2000	1300
4 x 2.5	0.53	11.1	0.3	13.3	1.4	16.3	410	163	70	2000	1400
5 x 2.5	0.53	12.1	0.3	14.3	1.4	17.3	450	173	87	2000	1400
6 x 2.5	0.53	13.3	0.3	15.5	1.4	18.5	520	185	105	2000	1400
7 x 2.5	0.53	13.3	0.3	15.5	1.4	18.5	540	185	122	2000	1400
10 x 2.5	0.53	16.9	0.3	19.1	1.5	22.6	730	226	175	2000	1600
12 x 2.5	0.53	17.4	0.3	19.6	1.5	23.1	800	231	210	2000	1600
19 x 2.5	0.53	20.4	0.4	23.0	1.6	26.7	1140	267	332	1700	1700
20 x 2.5	0.53	21.6	0.4	24.2	1.6	27.9	1200	279	350	1600	1800
27 x 2.5	0.53	24.5	0.4	27.1	1.7	31.0	1510	310	472	1300	1800
30 x 2.5	0.53	25.6	0.4	28.2	1.7	32.1	1630	321	525	1200	1800
37 x 2.5	0.53	27.6	0.4	30.2	1.7	34.1	1890	341	647	1000	1700
2 x 4	0.53	10.8	0.3	13.0	1.4	16.0	370	160	56	2000	1400
3 x 4	0.53	11.4	0.3	13.6	1.4	16.6	430	166	84	2000	1400
4 x 4	0.53	12.6	0.3	14.8	1.4	17.8	500	178	112	2000	1400
5 x 4	0.53	13.7	0.3	15.9	1.4	18.9	570	189	140	2000	1400
6 x 4	0.53	14.9	0.3	17.1	1.5	20.6	650	206	168	2000	1400
7 x 4	0.53	14.9	0.3	17.1	1.5	20.6	690	206	196	2000	1400
10 x 4	0.53	19.2	0.4	21.8	1.6	25.5	1010	255	280	1900	1800
12 x 4	0.53	19.8	0.4	22.4	1.6	26.1	1110	261	336	1800	1700
19 x 4	0.53	23.3	0.4	25.9	1.7	29.8	1530	298	532	1300	1700
20 x 4	0.53	24.8	0.4	27.4	1.7	31.3	1620	313	560	1200	1700
27 x 4	0.53	28.2	0.4	30.8	1.8	34.9	2050	349	756	900	1600
30 x 4	0.53	29.2	0.4	31.8	1.8	35.9	2210	359	840	900	1700
37 x 4	0.53	31.7	0.4	34.3	1.8	38.4	2600	384	1036	700	1600

Part 7: Fieldbus Cables Flame Retardant Range



Part 7: Fieldbus Cables Flame Retardant Range

Application for Flame Retardant Fieldbus Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - 1PR - Multi element (PR)	 Ω/km Ω/km	 36.00 36.72	 24.50 24.99	 18.10 18.46	 12.10 12.34	 7.41 7.56
Max. Conductor Resistance (Tinned) - 1PR - Multi element (PR)	 Ω/km Ω/km	 36.70 37.43	 24.80 25.30	 18.20 18.56	 12.20 12.44	 7.56 7.71
Min. Insulation Resistance - PE / XLPE insulated	MΩ.km	1000	1000	1000	1000	1000
Max. Mutual Capacitance - PE / XLPE insulated	nF/km	150	150	150	150	150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured Cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured Cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Non-armoured Overall Screened, Flame Retardant Fieldbus Cables

PE/OSCR/PVC-FR, XLPE/OSCR/PVC-FR,
PE/OSCR/LSHF, XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Cable Lay Up	: 4 x pairs to the core
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.8	0.9	8.1	80	65	14	2000	900
2PR x 1.0	0.8	1.1	12.2	160	98	28	2000	1100
5PR x 1.0	0.8	1.2	15.7	270	126	70	2000	1400
10PR x 1.0	0.8	1.4	22.6	500	181	140	2000	1600
20PR x 1.0	0.8	1.6	29.3	880	234	280	2000	2000
1PR x 1.5	0.8	1.0	8.8	100	70	21	2000	900
2PR x 1.5	0.8	1.1	13.1	180	105	42	2000	1200
5PR x 1.5	0.8	1.2	16.9	330	135	105	2000	1400
10PR x 1.5	0.8	1.4	24.3	620	194	210	2000	1700
20PR x 1.5	0.8	1.7	31.8	1130	254	420	1700	2000
1PR x 2.5	0.8	1.0	9.7	120	78	35	2000	900
2PR x 2.5	0.8	1.1	14.4	240	115	70	2000	1200
5PR x 2.5	0.8	1.3	19.0	460	152	175	2000	1400
10PR x 2.5	0.8	1.5	27.3	860	218	350	2000	1900
20PR x 2.5	0.8	1.8	35.7	1590	286	700	1200	1900

Non-armoured Individual & Overall Screened, Flame Retardant Fieldbus Cables

PE/ISOS/PVC-FR, XLPE/ISOS/PVC-FR
PE/ISOS/LSHF, XLPE/ISOS/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

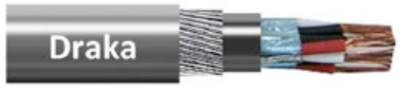
Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	1.1	13.5	180	108	28	2000	1200
5PR x 1.0	0.8	1.2	17.5	330	140	70	2000	1400
10PR x 1.0	0.8	1.5	25.5	630	204	140	2000	1800
20PR x 1.0	0.8	1.7	33.1	1120	265	280	1700	2240
2PR x 1.5	0.8	1.1	14.5	210	116	42	2000	1200
5PR x 1.5	0.8	1.3	19.0	410	152	105	2000	1400
10PR x 1.5	0.8	1.5	27.4	760	219	210	2000	1900
20PR x 1.5	0.8	1.8	35.8	1380	286	420	1400	2240
2PR x 2.5	0.8	1.2	16.2	280	130	70	2000	1400
5PR x 2.5	0.8	1.4	21.5	540	172	175	2000	1600
10PR x 2.5	0.8	1.7	30.8	1030	246	350	1900	2240
20PR x 2.5	0.8	2.0	40.2	1880	322	700	1000	2000

Armoured (SWA) Overall Screened, Flame Retardant Fieldbus Cables

PE/ISOS/PVC-FR, XLPE/ISOS/PVC-FR
PE/ISOS/LSHF, XLPE/ISOS/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Flame Retardant Polyvinyl chloride, PVC-FR or Low smoke halogen free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.8	7.9	0.9	9.6	1.3	12.4	290	124	14	2000	1100
2PR x 1.0	0.8	11.8	0.9	13.5	1.4	16.5	470	165	28	2000	1400
5PR x 1.0	0.8	15.5	1.25	17.9	1.5	21.4	820	214	70	2000	1500
10PR x 1.0	0.8	22.1	1.25	24.5	1.7	28.4	1280	284	140	1500	1700
20PR x 1.0	0.8	28.8	1.6	32.1	1.8	36.2	2090	362	280	900	1700
1PR x 1.5	0.8	8.6	0.9	10.4	1.4	13.4	330	134	21	2000	1200
2PR x 1.5	0.8	12.9	1.25	15.3	1.5	18.5	640	185	42	2000	1400
5PR x 1.5	0.8	16.7	1.25	19.1	1.6	22.8	930	228	105	2000	1600
10PR x 1.5	0.8	23.8	1.25	26.3	1.7	30.2	1460	302	210	1300	1700
20PR x 1.5	0.8	31.3	1.6	34.7	1.9	39.0	2460	390	420	800	1700
1PR x 2.5	0.8	9.5	0.9	11.2	1.4	14.2	380	142	35	2000	1200
2PR x 2.5	0.8	14.2	1.25	16.7	1.5	19.9	740	199	70	2000	1400
5PR x 2.5	0.8	18.8	1.25	21.2	1.6	24.9	1120	249	175	1700	1600
10PR x 2.5	0.8	26.8	1.6	29.9	1.8	34.0	1980	340	350	1000	1700
20PR x 2.5	0.8	35.2	1.6	38.5	2.0	43.0	3090	430	700	600	1700

Armoured (SWA) Individual & Overall Screened, Flame Retardant Fieldbus Cables

PE/ISOS/PVC-FR, XLPE/ISOS/PVC-FR
PE/ISOS/LSHF, XLPE/ISOS/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

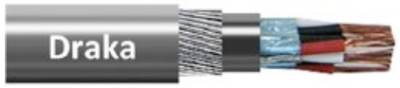
Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	13.3	1.25	15.8	1.5	19.0	660	190	28	2000	1400
5PR x 1.0	0.8	17.3	1.25	19.8	1.6	23.5	940	235	70	2000	1700
10PR x 1.0	0.8	25.0	1.25	27.4	1.7	31.3	1510	313	140	1300	1800
20PR x 1.0	0.8	32.6	1.6	35.9	1.9	40.2	2500	402	280	800	1800
2PR x 1.5	0.8	14.3	1.25	16.7	1.5	19.9	710	199	42	2000	1400
5PR x 1.5	0.8	18.8	1.25	21.3	1.6	25.0	1070	250	105	1800	1700
10PR x 1.5	0.8	26.9	1.6	30.2	1.8	34.3	1890	343	210	1000	1700
20PR x 1.5	0.8	35.3	1.6	38.7	2.0	43.2	2890	432	420	600	1700
2PR x 2.5	0.8	16.0	1.25	18.4	1.5	21.9	830	219	70	2000	1600
5PR x 2.5	0.8	21.0	1.25	23.5	1.7	27.4	1290	274	175	1500	1700
10PR x 2.5	0.8	30.3	1.6	33.6	1.9	37.9	2320	379	350	800	1700
20PR x 2.5	0.8	39.7	2.0	43.9	2.1	48.6	3920	486	700	500	1700

Armoured (SWB) Overall Screened, Flame Retardant Fieldbus Cables

PE/OSCR/PVC/SWB/PVC-FR, XLPE/OSCR/PVC/SWB/PVC-FR
PE/OSCR/LSHF/SWB/LSHF, XLPE/OSCR/LSHF/SWB/LSHF

500V



CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.8	7.9	0.3	9.1	1.3	11.9	200	119	14	2000	1100
2PR x 1.0	0.8	11.8	0.3	13.0	1.4	16.0	340	160	28	2000	1400
5PR x 1.0	0.8	15.5	0.3	16.7	1.5	19.9	520	199	70	2000	1400
10PR x 1.0	0.8	22.1	0.4	23.7	1.6	27.4	920	274	140	2000	1900
20PR x 1.0	0.8	28.8	0.4	30.4	1.8	34.5	1450	345	280	1300	2000
1PR x 1.5	0.8	8.6	0.3	9.8	1.3	12.6	230	126	21	2000	1100
2PR x 1.5	0.8	12.9	0.3	14.1	1.4	17.1	390	171	42	2000	1400
5PR x 1.5	0.8	16.7	0.3	17.9	1.5	21.4	600	214	105	2000	1500
10PR x 1.5	0.8	23.8	0.4	25.4	1.7	29.3	1080	293	210	1800	1900
20PR x 1.5	0.8	31.3	0.4	32.9	1.9	37.2	1760	372	420	1100	1900
1PR x 2.5	0.8	9.5	0.3	10.7	1.4	13.7	270	137	35	2000	1200
2PR x 2.5	0.8	14.2	0.3	15.4	1.5	18.6	470	186	70	2000	1400
5PR x 2.5	0.8	18.8	0.3	20.0	1.6	23.7	770	237	175	2000	1700
10PR x 2.5	0.8	26.8	0.4	28.4	1.8	32.5	1390	325	350	1400	1900
20PR x 2.5	0.8	35.2	0.4	36.8	1.9	41.1	2290	411	700	800	1900

Armoured (SWB) Individual & Overall Screened, Flame Retardant Fieldbus Cables

PE/ISOS/PVC/SWB/PVC-FR, XLPE/ISOS/PVC/SWB/PVC-FR
PE/ISOS/LSHF/SWB/LSHF, XLPE/ISOS/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	13.3	0.3	14.5	1.4	17.5	390	175	28	2000	1400
5PR x 1.0	0.8	17.3	0.3	18.5	1.5	22.0	610	220	70	2000	1600
10PR x 1.0	0.8	25.0	0.4	26.6	1.7	30.5	1110	305	140	1800	2000
20PR x 1.0	0.8	32.6	0.4	34.2	1.9	38.5	1780	385	280	1100	2000
2PR x 1.5	0.8	14.3	0.3	15.5	1.5	18.7	440	187	42	2000	1400
5PR x 1.5	0.8	18.8	0.3	20.0	1.6	23.7	720	237	105	2000	1700
10PR x 1.5	0.8	26.9	0.4	28.5	1.8	32.6	1290	326	210	1500	2000
20PR x 1.5	0.8	35.3	0.4	36.9	1.9	41.2	2090	412	420	900	2000
2PR x 2.5	0.8	16.0	0.3	17.2	1.5	20.7	530	207	70	2000	1500
5PR x 2.5	0.8	21.0	0.4	22.6	1.6	26.3	940	263	175	2000	1900
10PR x 2.5	0.8	30.3	0.4	31.9	1.8	36.0	1620	360	350	1200	2000
20PR x 2.5	0.8	39.7	0.4	41.3	2.1	46.0	2720	460	700	700	1900

Part 8: Fieldbus Cables Hydrocarbon Resistant Range

Application for Hydrocarbon Resistant Fieldbus Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	0.5mm²	0.75mm²	1.0mm²	1.5mm²	2.5mm²
Max. Conductor Resistance (Plain) - 1PR - Multi element (PR)	 Ω/km Ω/km	 36.00 36.72	 24.50 24.99	 18.10 18.46	 12.10 12.34	 7.41 7.56
Max. Conductor Resistance (Tinned) - 1PR - Multi element (PR)	 Ω/km Ω/km	 36.70 37.43	 24.80 25.30	 18.20 18.56	 12.20 12.44	 7.56 7.71
Min. Insulation Resistance - PE / XLPE insulated	MΩ.km	1000	1000	1000	1000	1000
Max. Mutual Capacitance - PE / XLPE insulated	nF/km	150	150	150	150	150
Max. L/R ratio	µH/Ω	25	25	25	40	60
Max. Inductance	mH/km	0.67	0.67	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500	500	500

Technical Data (For Non-armoured Cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured Cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Armoured (SWA) Overall Screened, Hydrocarbon Resistant Fieldbus Cables

PE/ALUPAC/SWA/PVC-FR, XLPE/ALUPAC/SWA/PVC-FR
PE/ALUPAC/SWA/LSHF, XLPE/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1, IEC 61158-2
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.8	8.5	0.9	11.3	1.3	14.1	350	141	14	2000	1200
2PR x 1.0	0.8	12.4	0.9	15.2	1.4	18.2	540	182	28	2000	1400
5PR x 1.0	0.8	15.9	1.25	19.4	1.5	22.9	880	229	70	2000	1600
10PR x 1.0	0.8	22.7	1.25	26.1	1.6	29.8	1360	298	140	1400	1800
20PR x 1.0	0.8	29.4	1.6	33.8	1.8	37.9	2190	379	280	900	1800
1PR x 1.5	0.8	9.1	0.9	11.8	1.3	14.6	380	146	21	2000	1200
2PR x 1.5	0.8	13.5	0.9	16.2	1.4	19.2	600	192	42	2000	1400
5PR x 1.5	0.8	17.3	1.25	20.8	1.5	24.3	1000	243	105	2000	1700
10PR x 1.5	0.8	24.5	1.25	27.9	1.7	31.8	1560	318	210	1200	1800
20PR x 1.5	0.8	32.0	1.6	36.3	1.9	40.6	2560	406	420	700	1700
1PR x 2.5	0.8	10.1	0.9	12.8	1.4	15.8	450	158	35	2000	1400
2PR x 2.5	0.8	14.9	1.25	18.3	1.5	21.8	830	218	70	2000	1600
5PR x 2.5	0.8	19.4	1.25	22.8	1.6	26.5	1210	265	175	1600	1700
10PR x 2.5	0.8	27.4	1.6	31.8	1.8	35.9	2100	359	350	900	1700
20PR x 2.5	0.8	35.8	1.6	40.2	2.0	44.7	3190	447	700	600	1700

Armoured (SWA) Individual & Overall Screened, Hydrocarbon Resistant Fieldbus Cables

PE/IS/ALUPAC/SWA/PVC-FR, XLPE/IS/ALUPAC/SWA/PVC-FR
PE/IS/ALUPAC/SWA/LSHF, XLPE/IS/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1, IEC 61158-2
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	11.1	1.25	17.4	1.4	20.7	730	207	28	2000	1500
5PR x 1.0	0.8	14.8	1.25	21.4	1.5	24.9	1010	249	70	1900	1700
10PR x 1.0	0.8	21.9	1.25	28.8	1.7	32.7	1590	327	140	1200	1800
20PR x 1.0	0.8	29.1	1.6	37.5	1.9	41.8	2590	418	280	700	1800
2PR x 1.5	0.8	12.0	1.25	18.4	1.5	21.9	800	219	42	2000	1600
5PR x 1.5	0.8	16.1	1.25	22.7	1.6	26.4	1150	264	105	1700	1700
10PR x 1.5	0.8	23.8	1.6	31.9	1.8	36.0	1990	360	210	1000	1800
20PR x 1.5	0.8	31.6	1.6	40.3	2.0	44.8	2980	448	420	600	1700
2PR x 2.5	0.8	13.5	1.25	20.1	1.5	23.6	920	236	70	2000	1700
5PR x 2.5	0.8	18.2	1.25	24.9	1.6	28.6	1360	286	175	1400	1700
10PR x 2.5	0.8	26.8	1.6	35.1	1.9	39.4	2380	394	350	800	1800
20PR x 2.5	0.8	35.6	2.0	46.3	2.1	51.0	4120	510	700	400	1800

Armoured (SWB) Overall Screened, Hydrocarbon Resistant Fieldbus Cables

PE/ALUPAC/SWB/PVC-FR, XLPE/ALUPAC/SWB/PVC-FR
PE/ALUPAC/SWB/LSHF, XLPE/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1, IEC 61158-2
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.8	8.5	0.3	10.7	1.3	13.5	250	135	14	2000	1200
2PR x 1.0	0.8	12.4	0.3	14.6	1.4	17.6	390	176	28	2000	1400
5PR x 1.0	0.8	15.9	0.3	18.1	1.5	21.6	570	216	70	2000	1600
10PR x 1.0	0.8	22.7	0.4	25.3	1.6	29.0	980	290	140	2000	2000
20PR x 1.0	0.8	29.4	0.4	32.0	1.8	36.1	1520	361	280	1300	2000
1PR x 1.5	0.8	9.1	0.3	11.3	1.3	14.1	270	141	21	2000	1200
2PR x 1.5	0.8	13.5	0.3	15.7	1.4	18.7	440	187	42	2000	1400
5PR x 1.5	0.8	17.3	0.3	19.5	1.5	23.0	660	230	105	2000	1600
10PR x 1.5	0.8	24.5	0.4	27.1	1.7	31.0	1150	310	210	1700	2000
20PR x 1.5	0.8	32.0	0.4	34.6	1.8	38.7	1810	387	420	1100	2000
1PR x 2.5	0.8	10.1	0.3	12.3	1.3	15.1	310	151	35	2000	1300
2PR x 2.5	0.8	14.9	0.3	17.1	1.5	20.6	530	206	70	2000	1400
5PR x 2.5	0.8	19.4	0.4	22.0	1.6	25.7	880	257	175	2000	1800
10PR x 2.5	0.8	27.4	0.4	30.0	1.7	33.9	1450	339	350	1300	1900
20PR x 2.5	0.8	35.8	0.4	38.4	1.9	42.7	2360	427	700	800	1900

Armoured (SWB) Individual & Overall Screened, Hydrocarbon Resistant Fieldbus Cables

PE/IS/ALUPAC/SWB/PVC-FR, XLPE/IS/ALUPAC/SWB/PVC-FR
PE/IS/ALUPAC/SWB/LSHF, XLPE/IS/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor	: Annealed copper wires
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1, IEC 61158-2
Specification for conductor: BSEN 60228 Class 2
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair	Black, White (with numbering for multipairs)
Sheath Colour	Black (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	11.1	0.3	16.2	1.4	19.2	450	192	28	2000	1400
5PR x 1.0	0.8	14.8	0.3	20.2	1.5	23.7	670	237	70	2000	1700
10PR x 1.0	0.8	21.9	0.4	28.0	1.7	31.9	1170	319	140	1700	2000
20PR x 1.0	0.8	29.1	0.4	35.8	1.8	39.9	1820	399	280	1100	2000
2PR x 1.5	0.8	12.0	0.3	17.1	1.4	20.1	490	201	42	2000	1400
5PR x 1.5	0.8	16.1	0.4	21.9	1.5	25.4	810	254	105	2000	1800
10PR x 1.5	0.8	23.8	0.4	30.1	1.7	34.0	1340	340	210	1400	2000
20PR x 1.5	0.8	31.6	0.4	38.6	1.9	42.9	2150	429	420	900	2000
2PR x 2.5	0.8	13.5	0.3	18.8	1.5	22.3	590	223	70	2000	1600
5PR x 2.5	0.8	18.2	0.4	24.1	1.6	27.8	990	278	175	2000	1900
10PR x 2.5	0.8	26.8	0.4	33.3	1.8	37.4	1670	374	350	1200	2000
20PR x 2.5	0.8	35.6	0.4	43.7	2.0	48.2	2820	482	700	700	2000

Part 9: Thermocouple Cables Flame Retardant Range

General information on Thermocouple Extension and Compensating Cables

For instrumentation and control technology, extension or compensating cables are required for precise temperature measurements. It is use as a thermo-electric extension from the thermocouple to the measurement devices. It consists of a positive core and negative core which generate the same thermo-electric voltage at the connector head temperatures as the thermocouple.

Extension Cables

Extension cables material are made of the same thermocouple element as the associated thermocouple.

Combination Code	Positive	Negative	Nominal e.m.f (microvolts 0°C / 100°C)
KX	Nickel chromium (Chromel)	Nickel aluminium (Alumel)	4.10
NX	Nickel chromium silicon	Nickel silicon	2.77
EX	Nickel chromium (Chromel)	Copper nickel (Constantan)	6.32
JX	Iron	Copper nickel (Constantan)	5.27
TX	Copper	Copper nickel (Constantan)	4.28

Extension Cables

Extension cables material are made of the same thermocouple element as the associated thermocouple.

Combination Code	Positive	Negative	Nominal e.m.f (microvolts 0°C / 100°C)
KCA	Iron	Copper nickel alloy	4.10
KCB	Copper	Copper nickel (Constantan)	4.10

Application for Flame Retardant Thermocouple Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	1.0mm²	1.3mm²	1.5mm²
Max. Conductor Resistance (KX type) - Positive - Negative	 Ω/km Ω/km	 768 318	 589 244	 515 213
Max. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000
Min. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	40	60
Max. Inductance	mH/km	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500

Technical Data (For Non-armoured Cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured Cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Standard (PVC)
Good (LSHF)

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Non-armoured Overall Screened, Flame Retardant Thermocouple Cables

PE/OSCR/PVC-FR, XLPE/OSCR/PVC-FR,
PE/OSCR/LSHF, XLPE/OSCR/LSHF

500V

CONSTRUCTION

Conductor	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.44	1.0	11.3	150	90	28	2000	1000
5PR x 1.0	0.44	1.1	14.6	290	117	70	2000	1200
10PR x 1.0	0.44	1.3	21.0	540	168	140	2000	1400
20PR x 1.0	0.44	1.5	27.2	970	218	280	1000	1400
2PR x 1.3	0.44	1.1	12.1	180	97	36	2000	1100
5PR x 1.3	0.44	1.2	15.5	340	124	91	2000	1300
10PR x 1.3	0.44	1.4	22.3	630	178	182	2000	1600
20PR x 1.3	0.44	1.6	29.0	1140	232	364	1000	1400
2PR x 1.5	0.44	1.1	12.4	190	99	42	2000	1100
5PR x 1.5	0.44	1.2	16.0	360	128	105	2000	1300
10PR x 1.5	0.44	1.4	23.0	670	184	210	2000	1600
20PR x 1.5	0.44	1.6	29.8	1230	238	420	1000	1400

Non-armoured Individual & Overall Screened, Flame Retardant Thermocouple Cables

PE/ISOS/PVC-FR, XLPE/ISOS/PVC-FR
PE/ISOS/LSHF, XLPE/ISOS/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.8	1.1	13.5	180	108	28	2000	1200
5PR x 1.0	0.8	1.2	17.5	330	140	70	2000	1400
10PR x 1.0	0.8	1.5	25.5	630	204	140	2000	1800
20PR x 1.0	0.8	1.7	33.1	1120	265	280	1700	2240
2PR x 1.5	0.8	1.1	14.5	210	116	42	2000	1200
5PR x 1.5	0.8	1.3	19.0	410	152	105	2000	1400
10PR x 1.5	0.8	1.5	27.4	760	219	210	2000	1900
20PR x 1.5	0.8	1.8	35.8	1380	286	420	1400	2240
2PR x 2.5	0.8	1.2	16.2	280	130	70	2000	1400
5PR x 2.5	0.8	1.4	21.5	540	172	175	2000	1600
10PR x 2.5	0.8	1.7	30.8	1030	246	350	1900	2240
20PR x 2.5	0.8	2.0	40.2	1880	322	700	1000	2000

Armoured (SWA) Overall Screened, Flame Retardant Thermocouple Cables

PE/ALUPAC/SWB/PVC-FR, XLPE/ALUPAC/SWB/PVC-FR
PE/ALUPAC/SWB/LSHF, XLPE/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

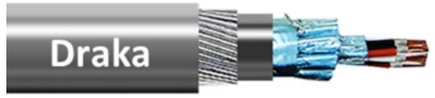
Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.44	6.7	0.9	8.5	1.3	11.3	260	113	14	2000	1000
2PR x 1.0	0.44	9.9	0.9	11.7	1.4	14.7	400	147	28	2000	1200
5PR x 1.0	0.44	12.8	1.25	15.2	1.5	18.4	690	184	70	2000	1400
10PR x 1.0	0.44	18.0	1.25	20.4	1.6	24.1	1060	241	140	2000	1700
20PR x 1.0	0.44	23.5	1.25	25.9	1.7	29.8	1600	298	280	1600	1800
1PR x 1.3	0.44	7.1	0.9	8.8	1.3	11.6	270	116	18	2000	1000
2PR x 1.3	0.44	10.5	0.9	12.2	1.4	15.2	430	152	36	2000	1300
5PR x 1.3	0.44	13.5	1.25	16.0	1.5	19.2	750	192	91	2000	1400
10PR x 1.3	0.44	19.2	1.25	21.7	1.6	25.4	1180	254	182	1000	1400
20PR x 1.3	0.44	25.1	1.6	28.2	1.8	32.3	2770	323	364	900	1500
1PR x 1.5	0.44	7.2	0.9	9.0	1.3	11.8	280	118	21	2000	1000
2PR x 1.5	0.44	10.7	0.9	12.5	1.4	15.5	450	155	42	2000	1300
5PR x 1.5	0.44	13.9	1.25	16.3	1.5	19.5	780	195	105	2000	1400
10PR x 1.5	0.44	19.8	1.25	22.2	1.6	25.9	1250	259	210	1000	1400
20PR x 1.5	0.44	25.8	1.6	29.0	1.8	33.1	2890	331	420	800	1400

Armoured (SWA) Individual & Overall Screened, Flame Retardant Thermocouple Cables

PE/ISOS/PVC/SWA/PVC-FR, XLPE/ISOS/PVC/SWA/PVC-FR
PE/ISOS/LSHF/SWA/LSHF, XLPE/ISOS/LSHF/SWA/LSHF

500V



CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low Smoke Halogen Free, LSHF
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.44	11.1	0.9	12.8	1.4	15.8	460	158	28	2000	1300
5PR x 1.0	0.44	14.4	1.25	16.8	1.5	20.0	800	200	70	2000	1400
10PR x 1.0	0.44	20.5	1.25	22.9	1.6	26.6	1250	266	140	1000	1400
20PR x 1.0	0.44	26.7	1.6	29.9	1.8	34.0	2930	340	280	800	1500
2PR x 1.3	0.44	11.9	0.9	13.6	1.4	16.6	500	166	36	2000	1400
5PR x 1.3	0.44	15.3	1.25	17.8	1.5	21.3	870	213	91	2000	1500
10PR x 1.3	0.44	21.8	1.25	24.3	1.7	28.2	1410	282	182	1800	1900
20PR x 1.3	0.44	28.5	1.6	31.8	1.9	36.1	3240	361	364	700	1500
2PR x 1.5	0.44	12.2	0.9	13.9	1.4	16.9	520	169	42	2000	1400
5PR x 1.5	0.44	15.8	1.25	18.2	1.5	21.7	910	217	105	2000	1500
10PR x 1.5	0.44	22.5	1.25	24.9	1.7	28.8	1480	288	210	1700	1900
20PR x 1.5	0.44	29.3	1.6	32.7	1.9	37.0	3400	370	420	700	1500

Armoured (SWB) Overall Screened, Flame Retardant Thermocouple Cables

PE/OSCR/PVC/SWB/PVC-FR, XLPE/OSCR/PVC/SWB/PVC-FR
PE/OSCR/LSHF/SWB/LSHF, XLPE/OSCR/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.44	6.7	0.3	7.9	1.3	10.7	180	107	14	2000	1000
2PR x 1.0	0.44	9.9	0.3	11.1	1.4	14.1	290	141	28	2000	1200
5PR x 1.0	0.44	12.8	0.3	14.0	1.4	17.0	440	170	70	2000	1400
10PR x 1.0	0.44	18.0	0.3	19.2	1.5	22.7	710	227	140	2000	1600
20PR x 1.0	0.44	23.5	0.4	25.1	1.7	29.0	1220	290	280	1000	1400
1PR x 1.3	0.44	7.1	0.3	8.3	1.3	11.1	190	111	18	2000	1000
2PR x 1.3	0.44	10.5	0.3	11.7	1.4	14.7	320	147	36	2000	1200
5PR x 1.3	0.44	13.5	0.3	14.7	1.4	17.7	490	177	91	2000	1400
10PR x 1.3	0.44	19.2	0.3	20.4	1.6	24.1	830	241	182	2000	1700
20PR x 1.3	0.44	25.1	0.4	26.7	1.7	30.6	1410	306	364	1800	2000
1PR x 1.5	0.44	7.2	0.3	8.4	1.3	11.2	200	112	21	2000	1000
2PR x 1.5	0.44	10.7	0.3	11.9	1.4	14.9	330	149	42	2000	1200
5PR x 1.5	0.44	13.9	0.3	15.1	1.5	18.3	520	183	105	2000	1400
10PR x 1.5	0.44	19.8	0.3	21.0	1.6	24.7	880	247	210	1000	1400
20PR x 1.5	0.44	25.8	0.4	27.4	1.7	31.3	1510	313	420	1700	2000

Armoured (SWB) Individual & Overall Screened, Flame Retardant Thermocouple Cables

PE/ISOS/PVC/SWB/PVC-FR, XLPE/ISOS/PVC/SWB/PVC-FR
PE/ISOS/LSHF/SWB/LSHF, XLPE/ISOS/LSHF/SWB/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Bedding	: Polyvinyl chloride, PVC or Low smoke halogen free, LSHF
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

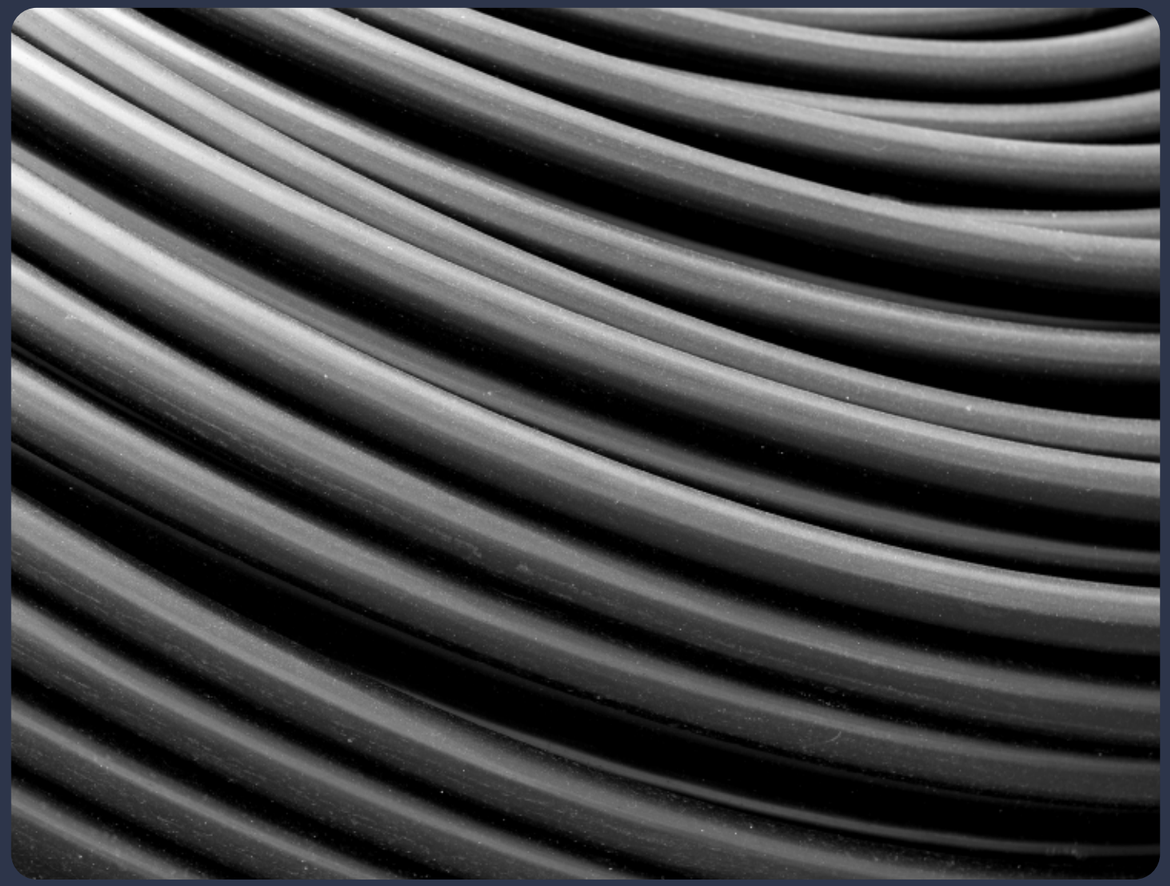
Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.44	11.1	0.3	12.3	1.4	15.3	330	153	28	2000	1300
5PR x 1.0	0.44	14.4	0.3	15.6	1.5	18.8	520	188	70	2000	1400
10PR x 1.0	0.44	20.5	0.4	22.1	1.6	25.8	930	258	140	1000	1400
20PR x 1.0	0.44	26.7	0.4	28.3	1.8	32.4	1510	324	280	1700	2000
2PR x 1.3	0.44	11.9	0.3	13.1	1.4	16.1	370	161	36	2000	1400
5PR x 1.3	0.44	15.3	0.3	16.5	1.5	19.7	590	197	91	2000	1400
10PR x 1.3	0.44	21.8	0.4	23.4	1.6	27.1	1040	271	182	1000	1400
20PR x 1.3	0.44	28.5	0.4	30.1	1.8	34.2	1700	342	364	1500	2000
2PR x 1.5	0.44	12.2	0.3	13.4	1.4	16.4	380	164	42	2000	1400
5PR x 1.5	0.44	15.8	0.3	17.0	1.5	20.5	620	205	105	2000	1400
10PR x 1.5	0.44	22.5	0.4	24.1	1.7	28.0	1110	280	210	1000	1400
20PR x 1.5	0.44	29.3	0.4	30.9	1.8	35.0	1810	350	420	1400	2000

Part 10: Thermocouple Cables Hydrocarbon Resistant Range



General Information on Thermocouple Extension and Compensating Cables

For instrumentation and control technology, extension or compensating cables are required for precise temperature measurements. It is use as a thermo-electric extension from the thermocouple to the measurement devices. It consists of a positive core and negative core which generate the same thermo-electric voltage at the connector head temperatures as the thermocouple.

Extension Cables

Extension cables material are made of the same thermocouple element as the associated thermocouple.

Combination Code	Positive	Negative	Nominal e.m.f (microvolts 0°C / 100°C)
KX	Nickel chromium (Chromel)	Nickel aluminium (Alumel)	4.10
NX	Nickel chromium silicon	Nickel silicon	2.77
EX	Nickel chromium (Chromel)	Copper nickel (Constantan)	6.32
JX	Iron	Copper nickel (Constantan)	5.27
TX	Copper	Copper nickel (Constantan)	4.28

Extension Cables

Extension cables material are made of the same thermocouple element as the associated thermocouple.

Combination Code	Positive	Negative	Nominal e.m.f (microvolts 0°C / 100°C)
KCA	Iron	Copper nickel alloy	4.10
KCB	Copper	Copper nickel (Constantan)	4.10

Application for Hydrocarbon Resistant Thermocouple Cables

Fixed installation for instrumentation, communication, control and alarm systems in both hazardous areas (Zone 0, 1 & 2) and safe areas. These cables shall not be connected directly to mains electricity supply or other low impedance sources. It is not designed to be used for power supply.

Electrical Data at 20°C

Description	Unit	1.0mm²	1.3mm²	1.5mm²
Max. Conductor Resistance (KX type) - Positive - Negative	 Ω/km Ω/km	 768 318	 589 244	 515 213
Max. Insulation Resistance - PVC / XLEVA insulated - PE / XLPE insulated	 MΩ.km MΩ.km	 10 1000	 10 1000	 10 1000
Min. Mutual Capacitance - PVC / XLEVA insulated - PE / XLPE insulated	 nF/km nF/km	 250 150	 250 150	 250 150
Max. L/R ratio	µH/Ω	25	40	60
Max. Inductance	mH/km	0.63	0.63	0.59
Dielectric Strength	kV/min	2 / 1	2 / 1	2 / 1
Operating Voltage	V	500	500	500

Technical Data (For Non-armoured Cables)

IEC 60332-1
IEC 60332-3-24
(Cat.C)

For LSHF sheath

8 D

Good

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Open air
(Indoor)

Pb

Technical Data (For Armoured Cables)

IEC 60332-1
IEC 60332-3-22
(Cat.A)

For LSHF sheath

10 D

Excellent

Excellent

Installation: 0°C to 60°C
Operation: -20°C to 50°C

Direct buried

Pb

Armoured (SWA) Overall Screened, Hydrocarbon Resistant Thermocouple Cables

PE/ALUPAC/SWA/PVC-FR, XLPE/ALUPAC/SWA/PVC-FR
PE/ALUPAC/SWA/LSHF, XLPE/ALUPAC/SWA/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

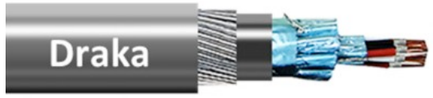
Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.44	7.2	0.9	9.9	1.3	12.7	310	127	14	2000	1100
2PR x 1.0	0.44	10.3	0.9	13.0	1.4	16.0	460	160	28	2000	1400
5PR x 1.0	0.44	13.0	0.9	15.8	1.4	18.8	630	188	70	2000	1400
10PR x 1.0	0.44	18.0	1.25	21.4	1.6	25.1	1120	251	140	1000	1400
20PR x 1.0	0.44	23.2	1.25	26.7	1.7	30.6	1630	306	280	1500	1900
1PR x 1.3	0.44	7.5	0.9	10.3	1.3	13.1	320	131	18	2000	1200
2PR x 1.3	0.44	10.8	0.9	13.5	1.4	16.5	490	165	36	2000	1400
5PR x 1.3	0.44	13.7	1.25	17.2	1.5	20.7	820	207	91	2000	1500
10PR x 1.3	0.44	19.2	1.25	22.7	1.6	26.4	1240	264	182	1000	1400
20PR x 1.3	0.44	24.8	1.6	29.0	1.8	33.1	2810	331	364	800	1500
1PR x 1.5	0.44	7.7	0.9	10.4	1.3	13.2	330	132	21	2000	1200
2PR x 1.5	0.44	11.1	0.9	13.8	1.4	16.8	500	168	42	2000	1400
5PR x 1.5	0.44	14.1	1.25	17.6	1.5	21.1	850	211	105	2000	1500
10PR x 1.5	0.44	19.8	1.25	23.3	1.6	27.0	1300	270	210	1900	1900
20PR x 1.5	0.44	25.6	1.6	29.7	1.8	33.8	2970	338	420	800	1500

Armoured (SWA) Individual & Overall Screened, Hydrocarbon Resistant Thermocouple Cables

PE/IS/ALUPAC/SWA/PVC-FR, XLPE/IS/ALUPAC/SWA/PVC-FR
PE/IS/ALUPAC/SWA/LSHF, XLPE/IS/ALUPAC/SWA/LSHF

500V



CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.44	8.6	0.9	14.0	1.4	17.0	500	136	28	2000	1400
5PR x 1.0	0.44	11.5	1.25	17.9	1.5	21.4	840	171	70	2000	1500
10PR x 1.0	0.44	17.0	1.25	23.8	1.6	27.5	1300	220	140	1900	1900
20PR x 1.0	0.44	22.6	1.6	30.7	1.8	34.8	2970	278	280	800	1600
2PR x 1.3	0.44	9.1	1.25	15.5	1.4	18.5	650	148	36	2000	1400
5PR x 1.3	0.44	12.3	1.25	18.8	1.5	22.3	920	178	91	2000	1600
10PR x 1.3	0.44	18.1	1.25	25.1	1.7	29.0	1430	232	182	1700	1900
20PR x 1.3	0.44	24.1	1.6	32.4	1.9	36.7	3260	294	364	700	1600
2PR x 1.5	0.44	9.4	1.25	15.8	1.5	19.0	680	152	42	2000	1400
5PR x 1.5	0.44	12.7	1.25	19.3	1.5	22.8	960	182	105	2000	1600
10PR x 1.5	0.44	18.8	1.25	25.7	1.7	29.6	1510	237	210	1600	1900
20PR x 1.5	0.44	25.0	1.6	33.5	1.9	37.8	3430	302	420	700	1600

Armoured (SWB) Overall Screened, Flame Retardant Thermocouple Cables

PE/ALUPAC/SWB/PVC-FR, XLPE/ALUPAC/SWB/PVC-FR
PE/ALUPAC/SWB/LSHF, XLPE/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
1PR x 1.0	0.44	7.2	0.3	9.4	1.3	12.2	220	122	14	2000	1100
2PR x 1.0	0.44	10.3	0.3	12.5	1.3	15.3	320	153	28	2000	1300
5PR x 1.0	0.44	13.0	0.3	15.2	1.4	18.2	480	182	70	2000	1400
10PR x 1.0	0.44	18.0	0.3	20.2	1.5	23.7	750	237	140	2000	1700
20PR x 1.0	0.44	23.2	0.4	25.8	1.7	29.7	1250	297	280	1000	1500
1PR x 1.3	0.44	7.5	0.3	9.7	1.3	12.5	230	125	18	2000	1100
2PR x 1.3	0.44	10.8	0.3	13.0	1.4	16.0	360	160	36	2000	1400
5PR x 1.3	0.44	13.7	0.3	15.9	1.4	18.9	520	189	91	2000	1400
10PR x 1.3	0.44	19.2	0.4	21.8	1.6	25.5	920	255	182	1000	1400
20PR x 1.3	0.44	24.8	0.4	27.4	1.7	31.3	1430	313	364	1700	2000
1PR x 1.5	0.44	7.7	0.3	9.9	1.3	12.7	240	127	21	2000	1100
2PR x 1.5	0.44	11.1	0.3	13.3	1.4	16.3	370	163	42	2000	1400
5PR x 1.5	0.44	14.1	0.3	16.3	1.4	19.3	560	193	105	2000	1400
10PR x 1.5	0.44	19.8	0.4	22.4	1.6	26.1	970	261	210	1000	1400
20PR x 1.5	0.44	25.6	0.4	28.2	1.7	32.1	1530	321	420	1600	2000

Armoured (SWB) Individual & Overall Screened, Hydrocarbon Resistant Thermocouple Cables

PE/IS/ALUPAC/SWB/PVC-FR, XLPE/IS/ALUPAC/SWB/PVC-FR
PE/IS/ALUPAC/SWB/LSHF, XLPE/IS/ALUPAC/SWB/LSHF

500V

CONSTRUCTION

Conductor (Type –KX)	: Positive : Nickel Chromium (Chromel) Negative : Nickel Aluminium (Alumel) (other types can be furnished upon request)
Insulation	: Polyethylene, PE or Crosslinked Polyethylene, XLPE
Pair	: Twisted
Individual Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm2 and binded together with 0.023mm polyester tape with min. 30% overlap
Assembly	: Concentric layers
Overall Screen	: Aluminium/polyester tape 0.024mm in electrical contact with tinned annealed copper wires of a total cross section of 0.5mm² and binded together with 0.023mm polyester tape with min. 30% overlap
Chemical Moisture Barrier	: Longitudinally applied AL tape bonded with extruded chemical resistant polymeric layer
Braided Armour	: Galvanized steel wire
Sheath	: Flame Retardant Polyvinyl Chloride, PVC-FR or Low Smoke Halogen Free, LSHF

APPLICATION

Design guidelines: BSEN 50288-7, BSEN 50288-1
Specification for conductor: ANSI MC 96.1, IEC 60584, IEC 60228 (Class 1)
Specification for insulation and sheath material: BSEN 50290

IDENTIFICATIONS

Pair (Type-KX for ANSI MC 96.1)	Yellow (Positive), Red (Negative) (with numbering for multipairs)
Pair (Type-KX for IEC 60584)	Green (Positive), White (Negative) (with numbering for multipairs)
Sheath Colour	Yellow (for ANSI MC 96.1), Green (for IEC 60584) (Other colour can be furnished upon request)

Cable marking:
DRAKA 500V (Cable type) n x m x csa BSEN 50288-7
(length marking interval every 1 meter)

Range and Dimensions (Pair)

Pair Cables	Minimum Insulation Thickness	Diameter After Bedding	Armour Wire Diameter	Diameter After Armour	Nominal Sheath Thickness	Approx. Outer Diameter	Approx. Cable weight	Minimum Bending Radius	Maximum Pulling Tension	Maximum Length per Drum	Drum Size
n x mm²	mm	mm	mm	mm	mm	mm	kg/km	mm	kgf	m	mm
2PR x 1.0	0.44	8.6	0.3	13.5	1.4	16.5	370	132	28	2000	1400
5PR x 1.0	0.44	11.5	0.3	16.6	1.5	19.8	550	158	70	2000	1400
10PR x 1.0	0.44	17.0	0.4	22.9	1.6	26.6	950	213	140	1000	1400
20PR x 1.0	0.44	22.6	0.4	28.9	1.8	33.0	1510	264	280	1600	2000
2PR x 1.3	0.44	9.1	0.3	14.2	1.4	17.2	400	138	36	2000	1400
5PR x 1.3	0.44	12.3	0.3	17.6	1.5	21.1	610	169	91	2000	1500
10PR x 1.3	0.44	18.1	0.4	24.3	1.7	28.2	1070	226	182	1000	1400
20PR x 1.3	0.44	24.1	0.4	30.7	1.8	34.8	1700	278	364	1400	2000
2PR x 1.5	0.44	9.4	0.3	14.6	1.4	17.6	420	141	42	2000	1400
5PR x 1.5	0.44	12.7	0.3	18.0	1.5	21.5	640	172	105	2000	1600
10PR x 1.5	0.44	18.8	0.4	24.9	1.7	28.8	1130	230	210	1000	1400
20PR x 1.5	0.44	25.0	0.4	31.7	1.8	35.8	1820	286	420	1300	2000

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