

KABELSCHLEPP

CABLES FOR MOTION



CONTINUOUS-BENDING HI-FLEX ELECTRICAL CABLES

TOTALTRAX TURN-KEY SYSTEMS

PRE-ASSEMBLED CABLES

STRAIN RELIEF DEVICES

... FOR CABLE CARRIERS

Durable, reliable, cost-effective

Cables for cable carriers

Ready for solutions – your advantage

KABELSCHLEPP – the inventor of the cable carrier. Our product portfolio covers more than 100,000 variants made of steel and plastic, allowing us to deliver a suitable and reliable cable carrier for every application – from standard off-the-shelf products to custom-designed complete solutions. Wherever you are in the world, we are here to help. We use our over 50 years of experience to continuously develop and refine the “insides” – i.e. the cables – and to constantly adapt them to the market requirements.

Our cable ranges meet the highest quality standards in order to ensure availability of your systems and installations.

With the range, we offer a selection of cables which are cost-effective, flexible and extremely durable.

A key factor for our cables is their tested and proven operational reliability, which meets all applicable standards and directives.

Competent, objective-driven systems consultation and global on-site service are both part of what we consider an on-going commitment to the technical and commercial optimisation of your applications.

TSUBAKI KABELSCHLEPP cable warehouse

Hundreds of cable types, stored constantly in our cable warehouse, secure a fast availability all around the world. We deliver according to your requirements, no minimum quantities, each length without extra cutting costs.



■ TSUBAKI KABELSCHLEPP cable warehouse.

The successful TSUBAKI KABELSCHLEPP cable program will currently extended and optimized as an innovative standard product line, especially for the installation of cables in dynamic cable and hose carrier systems. Our clearly structured type selection offers a unique combination of performance features.

■ Fully harnessed cable and hose carrier system QUANTUM equipped with electrical cables.

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TOTALTRAX Turn-Key Systems 10

Control cables 12

Power cables 24

Data cables 38

BUS-/LWL-/Coaxial cables 46

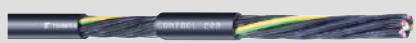
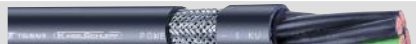
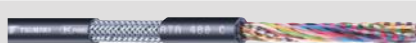
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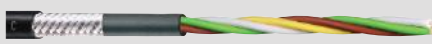
Overview cable types

Cable type		Outer jacket	Shield	Factor for K _{Rmin} n x Ø cable	Temperature moved	Approvals	Standards	Color type-department	Halogen-free	Flame-retardant	Oil-resistant	V _{max} supported (m/s)	V _{max} gliding (m/s)	a _{max} (m/s ²)	Diameter mm ² / Type/Other	Core number	Page	
CONTROL cables																		12
CONTROL 200		PVC	–	10	-5 to +80 °C		 	black/ grey	–	✓	✓	3.5	2	10	0,5 ² to 2.5 ²	2-25	12	
CONTROL 200 C		PVC	✓	10	-5 to +80 °C		 	black/ grey	–	✓	✓	3.5	2	10	0.5 ² to 1.5 ²	2-25	14	
CONTROL 400 – 600 V		PVC	–	7.5	-5 to +80 °C		 	black/ grey	–	✓	✓	10	5	20	0.5 ² to 2.5 ²	2-30	16	
CONTROL 400 C – 600 V		PVC	✓	7.5	-5 to +80 °C		 	black/ grey	–	✓	✓	10	5	20	0.5 ² to 1.5 ²	3-36	18	
CONTROL 700 – 600 V		PUR	–	7.5	-30 to +90 °C		 	black/ grey	✓	✓	✓	20	5	50	0.5 ² to 2.5 ²	2-36	20	
CONTROL 700 C – 600 V		PUR	✓	7.5	-30 to +90 °C		 	black/ grey	✓	✓	✓	20	5	50	0.5 ² to 1 ²	2-25	22	
POWER cables																		24
POWER 400 1 KV		PVC	–	7.5	-5 to +80 °C		 	black	–	✓	✓	5	3	20	1.5 ² to 70 ²	2-25	24	
POWER 400 C 1 KV		PVC	✓	7.5	-5 to +80 °C		 	black	–	✓	✓	5	3	20	1.5 ² to 35 ²	4-7	26	
POWER 700 1 KV		PUR	–	7.5	-30 to +90 °C		 	black	✓	✓	✓	20	5	50	1.5 ² to 185 ²	2-36	28	
POWER ONE 700 1 KV		PUR	–	7.5	-40 to +90 °C		 	black	✓	✓	✓	20	5	50	0.25 ² to 700 ²	1	30	
POWER ONE 700 PE		PUR	–	7.5	-40 to +90 °C		 	black	✓	✓	✓	20	5	50	1.5 ² to 95 ²	1	32	
POWER 700 C 1 KV		PUR	✓	7.5	-30 to +90 °C		 	black	✓	✓	✓	20	5	50	1.5 ² to 150 ²	2-49	34	
POWER ONE 700 C 1 KV		PUR	✓	7.5	-40 to +90 °C		 	black	✓	✓	✓	20	5	50	1.5 ² to 300 ²	1	36	
DATA cables																		38
DATA 400 C		PVC	✓	7.5	-5 to +80 °C		 	black/ purple	✓	✓	✓	20	5	50	0.25 ² to 0.34 ²	4-25	38	
DATA 700		PUR	–	7.5	-30 to +90 °C		 	black/ purple	✓	✓	✓	20	5	50	0.25 ² to 0.34 ²	3-15	40	
DATA 700 TPi C		PUR	✓	7.5	-30 to +90 °C		 	black/ purple	✓	✓	✓	20	5	50	0.25 ² to 1 ²	2-32	42	
DATA 700 TPi CD DATA/POWER		PUR	✓	7.5	-30 to +90 °C		 	black/ purple	✓	✓	✓	20	5	50	0.25 ² to 1.5 ²	6-20	44	

Overview cable types

Cable type	Outer jacket	Shield	Factor for KR _{min} = n x Ø cable	Temperature moved	Approvals	Standards	Color type-department	Halogen-free	Flame-retardant	Oil-resistant	V _{max} supported (m/s)	V _{max} gliding (m/s)	amax (m/s²)	Diameter mm²/ Type/Other	Core number	Page
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BUS-/fiber optic-/coaxial cables46

Profibus 700 C		PUR	✓	15	-20 to +60 °C		 	purple/ black	✓	✓	✓	3.5	2	10	0.5²	2	46
CAN-BUS 700 C		PUR	✓	7.5	-30 to +70 °C		 	purple/ black	✓	✓	✓	3.5	2	10	0.5²	2-4	48
USB S 700 C		PUR	✓	10	-10 to +70 °C		 	purple	✓	✓	✓	3.5	2	10	(1x2x0.08² + 2x0.5²)	4	50
Interbus 700 C		PUR	✓	12	-30 to +70 °C		 	purple/ black	✓	✓	✓	3.5	2	10	0.25² to 1²	9	52
CAT5E / CAT6 700 CD		PUR	✓	10	-20 to +60 °C		 	green/ black	✓	✓	✓	3.5	2	10	0.15² to 0.22²	8	54
Koax 700 C / 700 CD		PUR	✓	14	-5 to +50 °C		 	black	–	–	✓	3.5	2	10	HF 50/75	1-3	56
LWL 700		PUR	–	7.5	-30 to +90 °C	–	 	black	✓	✓	✓	4	4	10	50µ/62,5µ	6-12	58

OEM SYSTEM cables60

SYSTEM S 700 C		PUR	✓	7.5	-30 to +90 °C	 	 	green	✓	✓	✓	6	3	8	0.14² to 0.5²	4-16	60
SYSTEM M 700 C		PUR	✓	7.5	-30 to +90 °C	 	 	orange	✓	✓	✓	6	3	8	1.5² to 50²	4-6	62



Overview pre-assembled cables

USB / CAT5E65

USB S 700 C pre-assembled		65
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Signal cablesCables with connections compatible with the OEM standards66

Signal basic cables		66
Signal extension cables		66

Power cablesCables with connections compatible with OEM standards67

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KABELSCHLEPP and EPLAN

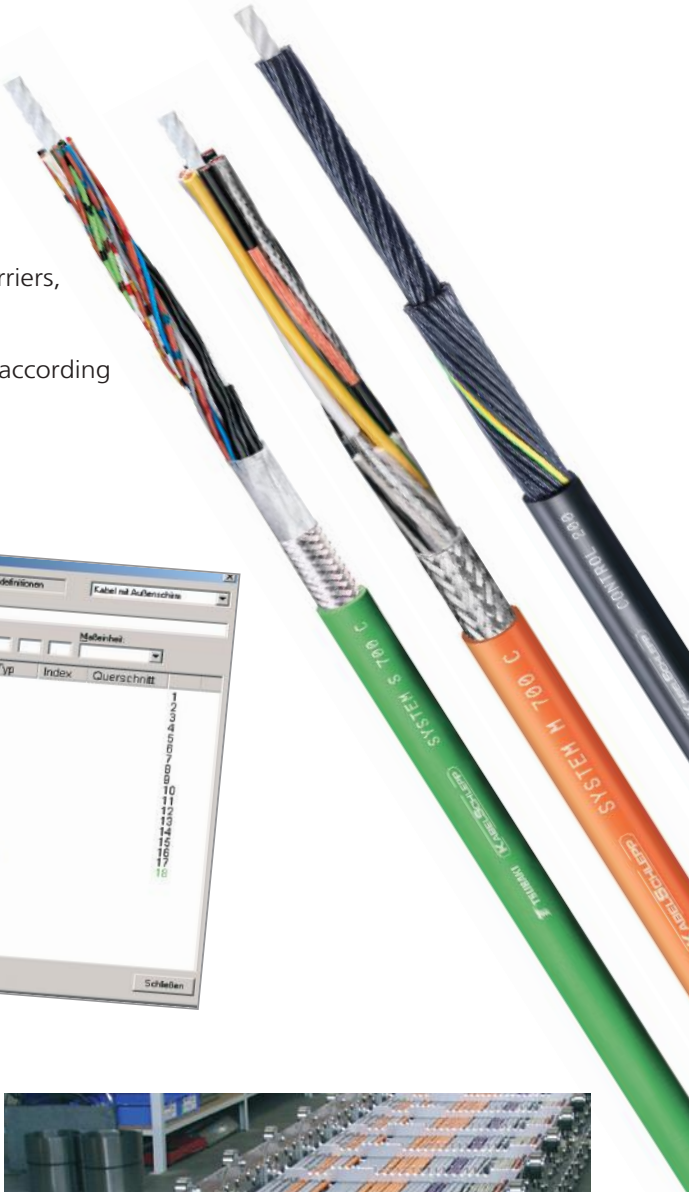
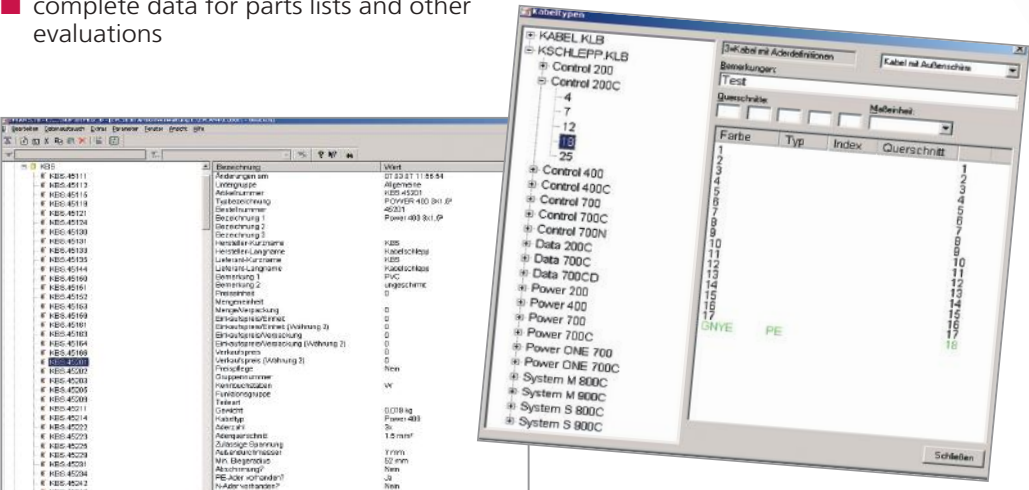
EPLAN has developed over more than 20 years into a leading E-CAD system and has become more-or-less established as a standard in some branches.

Cable database for EPLAN

As a provider of highly-flexible electrical cables for cable and hose carriers, we offer you the KABELSCHLEPP cable data bases as a superior tool for optimising your daily work with EPLAN.

The databases are optimized for use in EPLAN5 and for transmission according to EPLAN P8 electric.

- easy cable selection by construction
- automatic addition of core number, cross-section and core color
- complete data for parts lists and other evaluations



TOTALTRAX turn-key systems

Fully harnessed cable carrier systems

The product you need – we support and supply it to you completely harnessed

One supplier – one responsibility

We develop, design and supply all components required for your individual cable & hose carrier system.



■ Ready-to-connect assembled plastic cable carrier system, packed ready for installation

Everything you need

- Consulting
- Planning
- Design
- Cable carriers
- Electrical cables
- Complete guarantee
- Hydraulic hoses
- Pneumatic hoses
- Plug-and-socket connectors
- Assembly plates
- Complete assembly of all components

- + One contact person
- + One order
- + One delivery
- + Guaranteed quality

= **TOTALTRAX Complete System**

TOTALTRAX – from design to the complete system

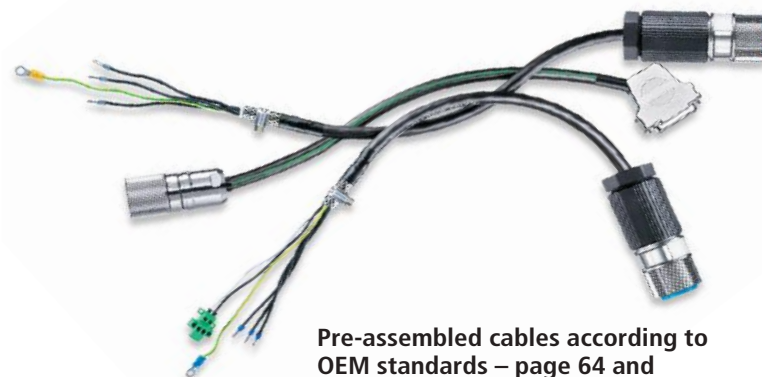


NOTE:

Harnessed cables according to all OEM

We manufacture KABELSCHLEPP cables according to OEM specifications, suitable for all drive controls which consist of signal and power cables and/or extension cables.

- any cable length available
- delivery minimum: 1 unit



Pre-assembled cables according to OEM standards – page 64 and following.

Cut costs with TOTALTRAX complete cable carrier systems

We help you . . .

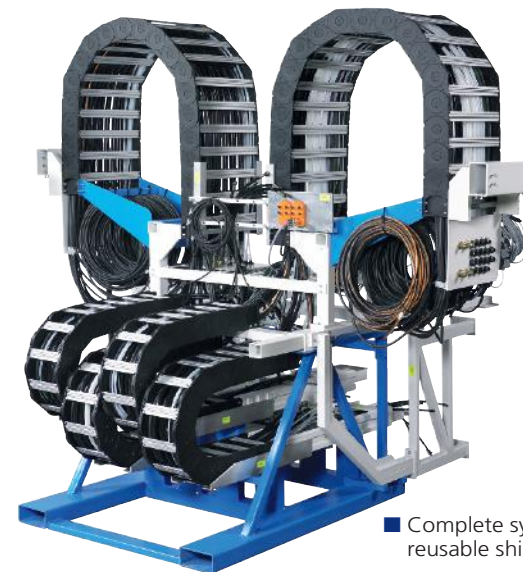
- Advice on planning
- Support in the design phase
- Only one contact person for the complete system including all the individual components
- Complete delivery from a single source
- Only one supplier – one purchase order and one item number
- All components match each other perfectly
- Guarantee certificate upon requests

. . . to cut your costs!

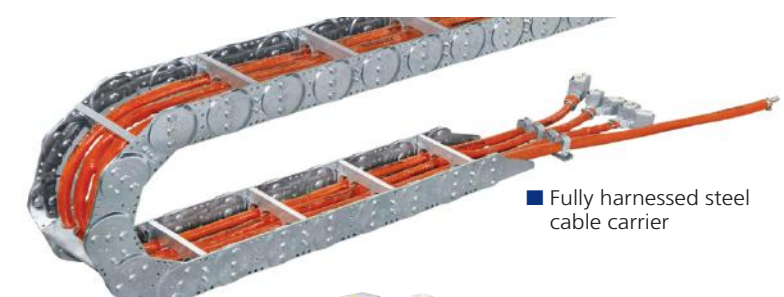
- Goods receiving inspections for all individual components are no longer required
- Expensive technical personnel and special tools are no longer required
- Shorter assembly times
- No hidden costs, e.g. cables being cut to excessive lengths etc.
- Less captive capital with almost no inventory
- On-time delivery directly to your production site

No storage costs for individual components like cables and connectors

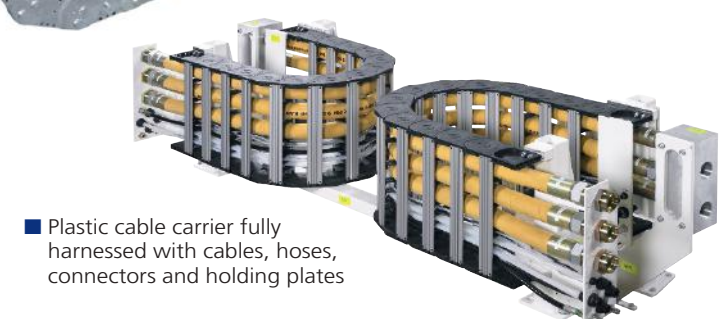
Our warehouses offer cables, plug-and-socket connectors as well as many other individual components.



■ Complete system with reusable shipping fixture



■ Fully harnessed steel cable carrier



■ Plastic cable carrier fully harnessed with cables, hoses, connectors and holding plates

Complete service – even for applications with extreme assembly conditions

Our service team can design and assemble your cable carrier system even for applications with extreme assembly conditions. Our service center experts provide you with the support you need.

- Complete assembly with guide channels
- Uncoiling of harnessed cable carrier systems with long travel lengths
- Assembly at great heights (e. g. crane systems)

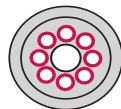
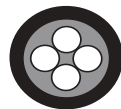


■ Fully harnessed cable carrier system in shipping crate



■ Assembly of the fully harnessed cable carrier system

Picture obtainable.

**Core insulation**
KS-PP
layered**Outer jacket**
KS-PVC
valley-sealed extruded
hi-flex design
UV-resistant
ozone-resistant
high abrasion-resistant**Jacket color black**
ozone-resistant
UV-resistant

CONTROL 200

Unshielded continuous bending hi-flex PVC control cables

Up to
2 million
motion cycles!

Up to
25 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- light to medium loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- flame-retardant
- silicone-free
- ozone-resistant

Design

Conductor:	finely stranded bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Outer jacket:	KS-PVC

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

CONTROL 200 – unshielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max. OD in mm	weight kg/m	Cu index kg/m
2 x 0.5 ²	20 / 2c	47351	4.5	0.026	0.010
3 G 0.5 ²	20 / 3c	47352	4.7	0.031	0.015
5 G 0.5 ²	20 / 5c	47354	5.5	0.045	0.024
7 G 0.5 ²	20 / 7c	47356	6.5	0.062	0.035
12 G 0.5 ²	20 / 12c	47360	7.6	0.090	0.058
18 G 0.5 ²	20 / 18c	47364	9.0	0.131	0.087
25 G 0.5 ²	20 / 25c	47367	11.4	0.195	0.125
3 G 0.75 ²	18 / 3c	47372	5.5	0.043	0.022
4 G 0.75 ²	18 / 4c	47373	6.1	0.055	0.029
5 G 0.75 ²	18 / 5c	47374	6.6	0.066	0.036
7 G 0.75 ²	18 / 7c	47376	7.7	0.088	0.053
12 G 0.75 ²	18 / 12c	47380	9.3	0.134	0.087
18 G 0.75 ²	18 / 18c	47384	11.2	0.197	0.130
25 G 0.75 ²	18 / 25c	47387	13.9	0.290	0.180
3 G 1 ²	17 / 3c	47392	6.0	0.054	0.030
4 G 1 ²	17 / 4c	47393	6.5	0.067	0.040
5 G 1 ²	17 / 5c	47394	7.0	0.079	0.048
7 G 1 ²	17 / 7c	47396	8.2	0.107	0.068
12 G 1 ²	17 / 12c	47400	10.2	0.168	0.116
18 G 1 ²	17 / 18c	47404	12.0	0.243	0.174
25 G 1 ²	17 / 25c	47407	15.1	0.363	0.246
3 G 1.5 ²	16 / 3c	47412	6.6	0.071	0.043
4 G 1.5 ²	16 / 4c	47413	7.1	0.087	0.058
5 G 1.5 ²	16 / 5c	47414	7.7	0.105	0.072
7 G 1.5 ²	16 / 7c	47416	9.2	0.144	0.101
12 G 1.5 ²	16 / 12c	47420	11.5	0.230	0.173
18 G 1.5 ²	16 / 18c	47424	13.4	0.330	0.260
25 G 1.5 ²	16 / 25c	47427	16.8	0.491	0.360
4 G 2.5 ²	14 / 4c	47433	8.7	0.136	0.100

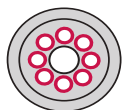
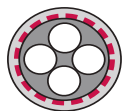
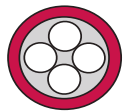


Subject to change.

Additional cable types upon request.

CONTROL 200 C

Shielded continuous bending hi-flex PVC control cables

**Core insulation
KS-PP**
layered**Inner jacket
KS-PVC**
valley-sealed,
pressure extruded,
hi-flex design**Overall shield**
high flexural strength,
tin-plated copper braiding
for small bend radii**Outer jacket
KS-PVC**
pressure extruded
hi-flex design
high abrasion-resistant**Jacket color black**
ozone-resistant
UV-resistant Up to
2 million
motion cycles! Up to
25 m
travel length! TSUBAKI KABELSCHLEPP
cables for
cable carriers

Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- light to medium loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded bare copper wires class 5 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores layered
Shielding:	coverage nom. 83 %
Outer jacket:	KS-PVC
Jacket color:	black
Inner jacket:	KS-PVC

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

CONTROL 200 C – shielded

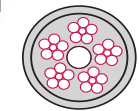
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(2 x 0.5 ²)	(20 / 2c)	47651	6.2	0.057	0.030
(3 G 0.5 ²)	(20 / 4c)	47652	6.4	0.062	0.036
(4 G 0.5 ²)	(20 / 5c)	47653	6.8	0.070	0.042
(5 G 0.5 ²)	(20 / 6c)	47654	7.2	0.081	0.048
(7 G 0.5 ²)	(20 / 7c)	47656	8.2	0.104	0.064
(12 G 0.5 ²)	(20 / 8c)	47660	9.7	0.149	0.105
(18 G 0.5 ²)	(20 / 9c)	47664	11.0	0.194	0.137
(25 G 0.5 ²)	(20 / 10c)	47667	13.6	0.283	0.210
(3 G 0.75 ²)	(18 / 3c)	47672	7.2	0.079	0.048
(4 G 0.75 ²)	(18 / 4c)	47673	7.6	0.090	0.055
(5 G 0.75 ²)	(18 / 5c)	47674	8.3	0.108	0.066
(7 G 0.75 ²)	(18 / 7c)	47676	9.8	0.147	0.085
(12 G 0.75 ²)	(18 / 12c)	47680	11.3	0.198	0.135
(18 G 0.75 ²)	(18 / 18c)	47684	13.4	0.284	0.190
(25 G 0.75 ²)	(18 / 25c)	47687	16.5	0.416	0.275
(3 G 1 ²)	(17 / 3c)	47692	7.7	0.091	0.050
(4 G 1 ²)	(17 / 4c)	47693	8.2	0.108	0.070
(7 G 1 ²)	(17 / 7c)	47696	10.4	0.167	0.106
(12 G 1 ²)	(17 / 12c)	47700	12.1	0.232	0.174
(18 G 1 ²)	(17 / 18c)	47704	14.2	0.334	0.240
(25 G 1 ²)	(17 / 25c)	47707	17.5	0.486	0.332
(4 G 1.5 ²)	(16 / 4c)	47713	8.8	0.133	0.090
(7 G 1.5 ²)	(16 / 7c)	47716	11.2	0.207	0.157
(12 G 1.5 ²)	(16 / 12c)	47720	13.7	0.318	0.240
(18 G 1.5 ²)	(16 / 18c)	47724	15.8	0.440	0.355
(25 G 1.5 ²)	(16 / 25c)	47727	19.6	0.646	0.448



Subject to change.

Additional cable types upon request.

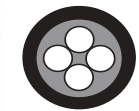
Picture obtainable.



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

CONTROL 400 – 600 V

Unshielded continuous bending hi-flex PVC control cables

Up to
4 million
motion cycles!

Up to
50 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	KS-PVC
Jacket color:	black

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 600 V

Approvals: UL, cUL,
based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

CONTROL 400 – 600 V – unshielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
2 x 0.5 ²	20 / 2c	48110	5.0	0.032	0.010
3 G 0.5 ²	20 / 3c	48111	5.3	0.038	0.014
4 G 0.5 ²	20 / 4c	48112	5.7	0.045	0.019
5 G 0.5 ²	20 / 5c	48113	6.4	0.058	0.025
7 G 0.5 ²	20 / 7c	48115	7.5	0.078	0.034
12 G 0.5 ²	20 / 12c	48119	10.3	0.137	0.063
18 G 0.5 ²	20 / 18c	48121	12.7	0.199	0.087
25 G 0.5 ²	20 / 25c	48124	14.4	0.275	0.130
30 G 0.5 ²	20 / 30c	48125	15.9	0.324	0.155
36 G 0.5 ²	20 / 36c	48126	17.5	0.390	0.185
48 G 0.5 ²	20 / 48c	48128	21.0	0.524	0.260
4 G 0.75 ²	18 / 4c	48040	6.4	0.057	0.029
5 G 0.75 ²	18 / 5c	48041	7.0	0.070	0.036
7 G 0.75 ²	18 / 7c	48042	8.3	0.096	0.051
12 G 0.75 ²	18 / 12c	48043	11.9	0.178	0.088
18 G 0.75 ²	18 / 18c	48044	14.5	0.258	0.138
25 G 0.75 ²	18 / 25c	48045	16.6	0.354	0.195
3 G 1 ²	17 / 3c	48046	6.2	0.056	0.029
4 G 1 ²	17 / 4c	48047	6.8	0.070	0.039
5 G 1 ²	17 / 5c	48048	7.4	0.084	0.050
7 G 1 ²	17 / 7c	48049	9.0	0.119	0.068
12 G 1 ²	17 / 12c	48050	12.5	0.212	0.125
18 G 1 ²	17 / 18c	48051	15.4	0.310	0.187
25 G 1 ²	17 / 25c	48052	17.7	0.429	0.260
3 G 1.5 ²	16 / 3c	48053	6.9	0.073	0.045
4 G 1.5 ²	16 / 4c	48054	7.9	0.097	0.058
5 G 1.5 ²	16 / 5c	48055	9.1	0.125	0.072
7 G 1.5 ²	16 / 7c	48056	10.8	0.170	0.101
12 G 1.5 ²	16 / 12c	48057	14.7	0.303	0.174
18 G 1.5 ²	16 / 18c	48058	18.0	0.437	0.280
25 G 1.5 ²	16 / 25c	48059	20.9	0.597	0.360
4 G 2.5 ²	14 / 4c	48060	9.2	0.140	0.096

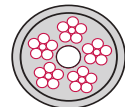


Subject to change.

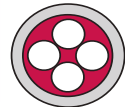
Additional cable types upon request.

CONTROL 400 C – 600 V

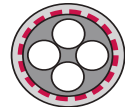
Shielded continuous bending hi-flex PVC control cables



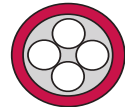
Core insulation
KS-PP
bundled stranding
(> 8 cores)



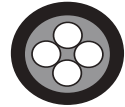
Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
very abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

Up to
4 million
motion cycles!



Up to
50 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PVC
Jacket color:	black
Inner jacket:	KS-PVC

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

Control 400 C – 600 V – shielded

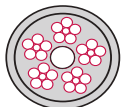
core number x nominal-cross-section in mm²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(5 G 0.5²)	20 / 5c	48664	8.0	0.104	0.052
(7 G 0.5²)	20 / 7c	48666	9.3	0.137	0.066
(9 G 0.5²)	20 / 9c	48668	10.4	0.158	0.090
(12 G 0.5²)	20 / 12c	48670	12.1	0.211	0.106
(18 G 0.5²)	20 / 18c	48674	14.5	0.289	0.169
(25 G 0.5²)	20 / 25c	48678	16.6	0.385	0.223
(30 G 0.5²)	20 / 30c	48679	18.5	0.482	0.272
(36 G 0.5²)	20 / 36c	48680	20.4	0.571	0.302
(3 G 0.75²)	(18 / 3c)	48682	7.8	0.089	0.045
(4 G 0.75²)	(18 / 4c)	48070	8.4	0.107	0.055
(7 G 0.75²)	(18 / 7c)	48071	10.4	0.158	0.085
(12 G 0.75²)	(18 / 12c)	48072	13.5	0.256	0.151
(18 G 0.75²)	(18 / 18c)	48073	15.9	0.345	0.225
(25 G 0.75²)	(18 / 25c)	48074	19.0	0.507	0.295
(4 G 1²)	(17 / 4c)	48075	9.0	0.125	0.073
(7 G 1²)	(17 / 7c)	48076	11.3	0.188	0.115
(12 G 1²)	(17 / 12c)	48077	14.3	0.296	0.198
(18 G 1²)	(17 / 18c)	48078	17.8	0.456	0.272
(25 G 1²)	(17 / 25c)	48079	20.8	0.612	0.357
(4 G 1.5²)	(16 / 4c)	48080	9.6	0.152	0.085
(5 G 1.5²)	(16 / 5c)	48081	10.4	0.173	0.103
(7 G 1.5²)	(16 / 7c)	48082	12.3	0.234	0.148
(12 G 1.5²)	(16 / 12c)	48083	17.3	0.422	0.269
(18 G 1.5²)	(16 / 18c)	48084	21.7	0.656	0.382
(25 G 1.5²)	(16 / 25c)	48085	25.2	0.892	0.503
(30 G 1.5²)	(16 / 30c)	48086	27.2	1.015	0.635



Subject to change.

Additional cable types upon request.

Picture obtainable.



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PUR
valley-sealed extruded
hi-flex design
extremely abrasion-
resistant



Jacket color black
ozone-resistant
UV-resistant

CONTROL 700 – 600 V

Unshielded continuous bending hi-flex PUR control cables

Up to
7 million
motion cycles!

Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	KS-PUR
Jacket color:	black

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 600 V
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

CONTROL 700 – 600 V – unshielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
2 x 0.5 ²	20 / 2c	45391	5.0	0.031	0.010
3 G 0.5 ²	20 / 3c	45392	5.3	0.038	0.014
4 G 0.5 ²	20 / 4c	45393	5.7	0.045	0.020
7 G 0.5 ²	20 / 7c	45396	7.5	0.078	0.035
12 G 0.5 ²	20 / 12c	45400	10.3	0.137	0.060
15 G 0.5 ²	20 / 15c	45401	11.3	0.161	0.072
16 G 0.5 ²	20 / 16c	45402	11.6	0.177	0.077
36 G 0.5 ²	20 / 36c	45412	17.1	0.375	0.198
3 G 0.75 ²	18 / 3c	45421	5.8	0.045	0.023
4 G 0.75 ²	18 / 4c	45422	6.4	0.057	0.031
5 G 0.75 ²	18 / 5c	45423	7.0	0.070	0.038
7 G 0.75 ²	18 / 7c	45425	8.3	0.096	0.053
12 G 0.75 ²	18 / 12c	45429	11.3	0.164	0.096
18 G 0.75 ²	18 / 18c	45431	13.9	0.241	0.146
25 G 0.75 ²	18 / 25c	45434	15.8	0.328	0.209
36 G 0.75 ²	18 / 36c	45436	19.6	0.481	0.270
3 G 1 ²	17 / 3c	45441	6.2	0.056	0.029
4 G 1 ²	17 / 4c	45442	6.8	0.069	0.044
5 G 1 ²	17 / 5c	45443	7.4	0.084	0.048
7 G 1 ²	17 / 7c	45445	9.0	0.118	0.070
8 G 1 ²	17 / 8c	45446	9.7	0.135	0.077
12 G 1 ²	17 / 12c	45449	11.9	0.197	0.125
18 G 1 ²	17 / 18c	45451	14.6	0.286	0.210
25 G 1 ²	17 / 25c	45454	16.9	0.400	0.302
7 G 1.5 ²	16 / 7c	45477	10.8	0.169	0.105
12 G 1.5 ²	16 / 12c	45480	13.7	0.269	0.195
18 G 2.5 ²	14 / 18c	45497	21.8	0.653	0.450
25 G 2.5 ²	14 / 25c	45498	24.0	0.866	0.625

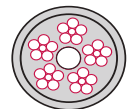


Subject to change.

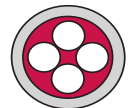
Additional cable types upon request.

CONTROL 700 C – 600 V

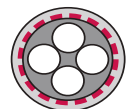
Shielded continuous bending hi-flex PUR control cables



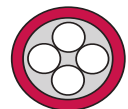
**Core insulation
KS-PP**
bundled stranding
(> 8 cores)



**Inner jacket
KS-TPE**
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



**Outer jacket
KS-TPE**
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

Up to
7 million
motion cycles!



Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket color:	black
Inner jacket:	KS-TPE

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 600 V
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

CONTROL 700 C – 600 V – shielded

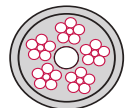
core number x nominal-cross-section in mm²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(3 G 0.5²)	(20 / 3c)	45701	7.1	0.073	0.036
(4 G 0.5²)	(20 / 4c)	45702	7.5	0.081	0.042
(5 G 0.5²)	(20 / 5c)	45703	8.0	0.095	0.048
(7 G 0.5²)	(20 / 7c)	45705	9.3	0.125	0.064
(12 G 0.5²)	(20 / 12c)	45709	12.1	0.199	0.109
(18 G 0.5²)	(20 / 18c)	45712	14.5	0.274	0.167
(25 G 0.5²)	(20 / 25c)	45715	16.6	0.364	0.212
(3 G 0.75²)	(18 / 3c)	45721	7.8	0.085	0.048
(4 G 0.75²)	(18 / 4c)	45722	8.4	0.103	0.055
(5 G 0.75²)	(18 / 5c)	45723	9.0	0.119	0.066
(7 G 0.75²)	(18 / 7c)	45725	10.4	0.152	0.087
(12 G 0.75²)	(18 / 12c)	45729	13.5	0.242	0.147
(18 G 0.75²)	(18 / 18c)	45732	15.9	0.328	0.222
(25 G 0.75²)	(18 / 25c)	45735	19.0	0.482	0.293
(3 G 1²)	(17 / 3c)	45741	8.3	0.102	0.059
(4 G 1²)	(17 / 4c)	45742	9.0	0.120	0.070
(5 G 1²)	(17 / 5c)	45743	9.6	0.137	0.084
(7 G 1²)	(17 / 7c)	45745	11.3	0.181	0.106
(12 G 1²)	(17 / 12c)	45749	14.3	0.281	0.174
(18 G 1²)	(17 / 18c)	45752	17.8	0.496	0.240
(25 G 1²)	(17 / 25c)	45755	20.8	0.585	0.332



Subject to change.

Additional cable types upon request.

Picture obtainable.



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PVC
valley-sealed extruded
hi-flex design
high abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER 400 – 1 kV

Unshielded continuous bending hi-flex PVC power cables

Up to
4 million
motion cycles!

Up to
50 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- medium to heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	KS-PVC
Jacket color:	black (according to DESINA)

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

POWER 400 – 1 kV – unshielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
2 x 1.5 ²	16 / 2c	45200	6.5	0.060	0.031
3 G 1.5 ²	16 / 3c	45201	6.9	0.073	0.045
4 G 1.5 ²	16 / 4c	45202	7.9	0.097	0.060
5 G 1.5 ²	16 / 5c	45203	9.1	0.125	0.072
7 G 1.5 ²	16 / 7c	45205	10.8	0.170	0.105
12 G 1.5 ²	16 / 12c	45209	14.5	0.295	0.180
18 G 1.5 ²	16 / 18c	45211	18.0	0.437	0.270
20 G 1.5 ²	16 / 20c	45212	18.9	0.496	0.303
25 G 1.5 ²	16 / 25c	45214	20.9	0.597	0.405
3 G 2.5 ²	14 / 3c	45221	8.9	0.122	0.075
4 G 2.5 ²	14 / 4c	45222	9.7	0.152	0.100
5 G 2.5 ²	14 / 5c	45223	10.8	0.185	0.125
7 G 2.5 ²	14 / 7c	45225	12.5	0.244	0.168
12 G 2.5 ²	14 / 12c	45229	17.7	0.457	0.300
18 G 2.5 ²	14 / 18c	45231	22.2	0.677	0.450
25 G 2.5 ²	14 / 25c	45234	24.8	0.906	0.625
4 G 4 ²	12 / 4c	45242	11.5	0.237	0.160
5 G 4 ²	12 / 5c	45243	12.8	0.288	0.200
7 G 4 ²	12 / 7c	45245	14.8	0.397	0.280
4 G 6 ²	10 / 4c	45252	13.5	0.357	0.240
5 G 6 ²	10 / 5c	45253	14.8	0.433	0.288
7 G 6 ²	10 / 7c	45254	17.7	0.604	0.420
4 G 10 ²	8 / 4c	45262	16.5	0.523	0.400
5 G 10 ²	8 / 5c	45263	18.1	0.632	0.480
4 G 16 ²	6 / 4c	45272	20.8	0.877	0.640
4 G 25 ²	4 / 4c	45282	25.8	1.294	1.000
4 G 35 ²	2 / 4c	45292	29.8	1.763	1.400
4 G 50 ²	1 / 4c	45302	34.4	2.470	1.910
4 G 70 ²	0 / 4c	45312	40.6	3.493	2.700

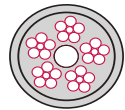


Subject to change.

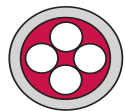
Additional cable types upon request.



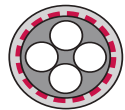
Picture obtainable.



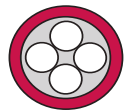
Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-PVC
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending
hi-flex, tin-plated
copper braiding
for smallest bend radii



Outer jacket
KS-PVC
pressure extruded
hi-flex design
high abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER 400 C – 1 kV

Shielded continuous bending hi-flex PVC power cables

Up to
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motion cycles!



Up to
50 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- medium to heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Shielding:	coverage nom. 83 %
Outer jacket:	KS-PVC
Jacket color:	black
Inner jacket:	KS-PVC

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	3 m/s
a_{max}:	20 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

POWER 400 C – 1 kV – shielded

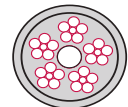
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(4 G 1.5 ²)	(16 / 4c)	47202	10.0	0.159	0.104
(4 G 2.5 ²)	(14 / 4c)	47222	11.8	0.224	0.148
(5 G 2.5 ²)	(14 / 5c)	47223	12.9	0.264	0.171
(7 G 2.5 ²)	(14 / 7c)	47225	15.1	0.356	0.235
(4 G 4 ²)	(12 / 4c)	47242	13.7	0.325	0.209
(7 G 4 ²)	(12 / 7c)	47245	17.4	0.523	0.360
(4 G 6 ²)	(10 / 4c)	47252	16.1	0.449	0.307
(4 G 10 ²)	(8 / 4c)	47262	19.6	0.690	0.520
(4 G 16 ²)	(6 / 4c)	47272	24.0	1.062	0.746
(5 G 16 ²)	(6 / 5c)	47273	27.3	1.327	0.904
(4 G 25 ²)	(4 / 4c)	47282	29.2	1.566	1.163
(4 G 35 ²)	(2 / 4c)	47292	34.0	2.129	1.667



Subject to change.

Additional cable types upon request.

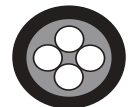
Picture obtainable.



**Core insulation
KS-PP**
bundled stranding
(> 8 cores)



**Outer jacket
KS-PUR**
valley-sealed extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER 700 – 1 kV

Unshielded continuous bending hi-flex PUR power cables

Up to
7 million
motion cycles!

Up to
500 m
travel length!

TSUBAKI KABELSCHLEPP
cables for
cable carriers



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	KS-PUR
Jacket color:	black (according to DESINA)

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

POWER 700 – 1 kV – unshielded

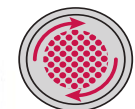
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
2 x 1.5 ²	16 / 2c	45500	7.5	0.071	0.031
3 G 1.5 ²	16 / 3c	45501	7.7	0.084	0.045
4 G 1.5 ²	16 / 4c	45502	8.4	0.105	0.058
5 G 1.5 ²	16 / 5c	45503	9.1	0.125	0.072
7 G 1.5 ²	16 / 7c	45505	10.8	0.171	0.105
12 G 1.5 ²	16 / 12c	45509	14.5	0.294	0.195
18 G 1.5 ²	16 / 18c	45511	18.0	0.447	0.270
25 G 1.5 ²	16 / 25c	45514	20.9	0.596	0.405
36 G 1.5 ²	16 / 36c	45516	26.2	0.894	0.540
2 x 2.5 ²	14 / 2c	45520	8.4	0.107	0.050
3 G 2.5 ²	14 / 3c	45521	8.9	0.122	0.075
4 G 2.5 ²	14 / 4c	45522	9.7	0.151	0.108
5 G 2.5 ²	14 / 5c	45523	10.8	0.185	0.125
7 G 2.5 ²	14 / 7c	45525	12.7	0.254	0.175
12 G 2.5 ²	14 / 12c	45529	17.7	0.456	0.300
18 G 2.5 ²	14 / 18c	45531	22.2	0.676	0.450
25 G 2.5 ²	14 / 25c	45534	24.8	0.904	0.625
36 G 2.5 ²	14 / 36c	45536	30.0	1.265	0.900
2 x 4 ²	12 / 2c	45540	9.9	0.147	0.080
3 G 4 ²	12 / 3c	45541	10.6	0.182	0.120
4 G 4 ²	12 / 4c	45542	11.5	0.226	0.154
5 G 4 ²	12 / 5c	45544	12.9	0.274	0.240
7 G 4 ²	12 / 7c	45543	15.3	0.395	0.269
3 G 6 ²	10 / 3c	45551	12.2	0.259	0.173
4 G 6 ²	10 / 4c	45552	13.5	0.330	0.240
5 G 6 ²	10 / 5c	45553	15.1	0.410	0.288
7 G 6 ²	10 / 7c	45555	18.2	0.577	0.403
4 G 10 ²	8 / 4c	45562	16.9	0.537	0.384
5 G 10 ²	8 / 5c	45563	18.9	0.669	0.500
4 G 16 ²	6 / 4c	45565	21.0	0.842	0.640
5 G 16 ²	6 / 5c	45566	23.7	1.054	0.800
4 G 25 ²	4 / 4c	45568	25.8	1.292	1.000
5 G 25 ²	5 / 4c	45569	28.8	1.599	1.200
3 G 35 ²	2 / 3c	45570	26.6	1.361	1.008
4 G 35 ²	2 / 4c	45571	29.8	1.760	1.344
5 G 35 ²	2 / 5c	45560	33.4	2.187	1.750
4 G 50 ²	1 / 4c	45572	34.4	2.471	1.920
4 G 70 ²	2 / 0 / 4c	45573	40.6	3.493	2.700
4 G 95 ²	3 / 0 / 4c	45574	45.1	4.481	3.800



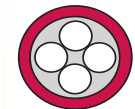
Subject to change.

Additional cable types upon request.

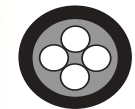
Picture obtainable.



**Core insulation
KS-PUR**
wire bundles
in short pitches



**Outer jacket
KS-PUR**
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER ONE 700 – 1 kV

Unshielded continuous bending hi-flex PUR single-core cables

Up to
7 million
motion cycles!

Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PUR
Core stranding:	single-core
Outer jacket:	KS-PUR
Jacket color:	black (according to DESINA)

Technical Data

Temperature range:	– 40 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

POWER ONE 700 – 1 kV – unshielded

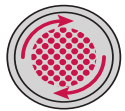
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
1 x 0.25 ²	23 / 1c	45575	4.05	0.018	0.002
1 x 0.34 ²	22 / 1c	45576	4.15	0.019	0.003
1 x 0.5 ²	20 / 1c	45577	4.25	0.021	0.005
1 x 0.75 ²	18 / 1c	45578	4.65	0.026	0.007
1 x 1.0 ²	17 / 1c	45579	4.85	0.029	0.010
1 x 1.5 ²	16 / 1c	45580	5.4	0.037	0.014
1 x 2.5 ²	14 / 1c	45581	6.2	0.053	0.025
1 x 4 ²	12 / 1c	45582	6.8	0.072	0.040
1 x 6 ²	10 / 1c	45583	7.4	0.094	0.060
1 x 10 ²	8 / 1c	45584	8.6	0.141	0.100
1 x 16 ²	6 / 1c	45585	9.7	0.201	0.154
1 x 25 ²	4 / 1c	45586	11.3	0.293	0.240
1 x 35 ²	2 / 1c	45587	13.3	0.406	0.350
1 x 50 ²	1 / 1c	45588	15.7	0.577	0.500
1 x 70 ²	2 / 0 / 1c	45589	17.5	0.802	0.700
1 x 95 ²	3 / 0 / 1c	45590	19.5	1.008	0.950
1 x 120 ²	4 / 0 / 1c	45591	21.4	1.268	1.200
1 x 150 ²	250 MCM / 1c	45592	24.2	1.595	1.500
1 x 185 ²	350 MCM / 1c	45593	26.6	1.949	1.850
1 x 240 ²	400 MCM / 1c	45594	30.2	2.537	2.304
1 x 300 ²	500 MCM / 1c	45595	34.4	3.160	2.880
1 x 400 ²	800 MCM / 1c	45596	40.2	4.096	3.800
1 x 500 ²	1000 MCM / 1c	45597	42.8	5.262	5.000
1 x 700 ²	1380 MCM / 1c	45598	49.9	7.405	6.680



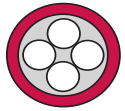
Subject to change.

Additional cable types upon request.

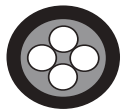
Picture obtainable.



**Core insulation
KS-PUR**
wire bundles
in short pitches



**Outer jacket
KS-PUR**
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER ONE 700 PE

Unshielded, continuous bending highly-flexible PUR single-core cables with PE core identification

Up to
7 million
motion cycles!

Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PUR
Core identification:	green/yellow
Core stranding:	single-core
Outer jacket:	KS-PUR
Jacket color:	black

Technical Data

Temperature range:	- 40 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

POWER ONE 700 PE – unshielded

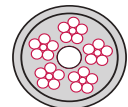
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
1 G 1.5 ²	16 / 1c	47580	5.4	0.037	0.015
1 G 2.5 ²	14 / 1c	47581	6.2	0.053	0.025
1 G 4 ²	12 / 1c	47582	6.8	0.072	0.040
1 G 6 ²	10 / 1c	47583	7.4	0.094	0.060
1 G 10 ²	8 / 1c	47584	8.6	0.141	0.100
1 G 16 ²	6 / 1c	47585	9.7	0.201	0.154
1 G 25 ²	4 / 1c	47586	11.3	0.293	0.240
1 G 35 ²	2 / 1c	47587	13.3	0.406	0.350
1 G 50 ²	0 / 1c	47588	15.7	0.577	0.500
1 G 70 ²	3 / 0 / 1c	47589	17.5	0.802	0.700
1 G 95 ²	4 / 0 / 1c	47590	19.5	1.008	0.950



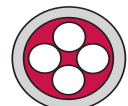
Subject to change.

Additional cable types upon request.

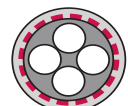
Picture obtainable.



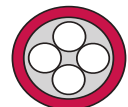
Core insulation
KS-PP
bundled stranding
(> 8 cores)



Inner jacket
KS-TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending
hi-flex, tin-plated
copper braiding for
smallest bend radii



Outer jacket
KS-PUR
pressure extruded,
hi-flex design, extremely
abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER 700 C – 1 kV

Shielded continuous bending hi-flex PUR power cables

Up to
7 million
motion cycles!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	black with white numbers, protective conductor green/yellow
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket color:	black
Inner jacket:	KS-TPE

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Up to
500 m
travel length!



Subject to change.

Type selection

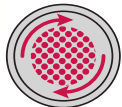
POWER 700 C – 1 kV – shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(2 x 1.5 ²)	(16 / 2c)	45760	9.1	0.114	0.064
(3 G 1.5 ²)	(16 / 3c)	45761	9.7	0.134	0.075
(4 G 1.5 ²)	(16 / 4c)	45762	10.5	0.161	0.089
(5 G 1.5 ²)	(16 / 5c)	45763	11.2	0.183	0.108
(7 G 1.5 ²)	(16 / 7c)	45765	12.7	0.235	0.148
(12 G 1.5 ²)	(16 / 12c)	45769	17.3	0.420	0.264
(18 G 1.5 ²)	(16 / 18c)	45772	21.7	0.716	0.362
(25 G 1.5 ²)	(16 / 25c)	45775	25.2	0.852	0.564
(36 G 1.5 ²)	(16 / 36c)	45777	30.0	1.170	0.698
(49 G 1.5 ²)	(16 / 49c)	45778	35.9	1.633	0.950
(3 G 2.5 ²)	(14 / 3c)	45780	11.0	0.179	0.110
(4 G 2.5 ²)	(14 / 4c)	45781	11.8	0.216	0.142
(5 G 2.5 ²)	(14 / 5c)	45783	12.9	0.254	0.170
(7 G 2.5 ²)	(14 / 7c)	45785	15.1	0.365	0.268
(12 G 2.5 ²)	(14 / 12c)	45787	21.6	0.648	0.421
(18 G 2.5 ²)	(14 / 18c)	45789	26.2	0.919	0.607
(20 G 2.5 ²)	(14 / 20c)	45790	26.8	1.003	0.621
(25 G 2.5 ²)	(14 / 25c)	45791	28.8	1.176	0.765
(4 G 4 ²)	(12 / 4c)	45801	13.7	0.313	0.211
(4 G 6 ²)	(10 / 4c)	45802	16.1	0.432	0.298
(4 G 10 ²)	(8 / 4c)	45803	19.6	0.666	0.526
(4 G 16 ²)	(6 / 4c)	45804	24.6	1.100	0.781
(5 G 16 ²)	(6 / 5c)	45812	27.7	1.368	0.904
(4 G 25 ²)	(4 / 4c)	45805	29.2	1.516	1.145
(4 G 35 ²)	(2 / 4c)	45806	34.0	2.060	1.667
(4 G 50 ²)	(1 / 4c)	45807	38.9	2.833	2.306
(4 G 70 ²)	(2 / 0 / 4c)	45808	45.6	3.974	3.045
(4 G 95 ²)	(3 / 0 / 4c)	45809	50.5	5.056	4.060
(4 G 120 ²)	(4 / 0 / 4c)	45810	55.9	6.424	5.128
(4 G 150 ²)	(250 MCM / 0 / 4c)	45811	62.5	7.783	6.525

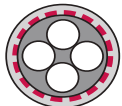


Subject to change.

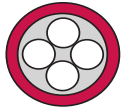
Additional cable types upon request.



Core insulation
KS-PUR
wire bundles
in short pitches



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

POWER ONE 700 C – 1 kV

Shielded continuous bending hi-flex PUR single-core cables

Up to
7 million
motion cycles!

Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- power and supply cable
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PUR
Core stranding:	Single-core
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket color:	black

Technical Data

Temperature range:	– 40 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 0.6/1 kV according to UL 1 kV
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

POWER ONE 700 C – 1 kV – shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(1 x 1.5 ²)	(16 / 1c)	45814	6.4	0.55	0.029
(1 x 2.5 ²)	(14 / 1c)	45815	6.8	0.072	0.041
(1 x 4 ²)	(12 / 1c)	45816	7.4	0.093	0.059
(1 x 6 ²)	(10 / 1c)	45817	8.0	0.119	0.071
(1 x 10 ²)	(8 / 1c)	45818	9.2	0.169	0.122
(1 x 16 ²)	(6 / 1c)	45819	10.4	0.236	0.190
(1 x 25 ²)	(4 / 1c)	45820	11.9	0.333	0.289
(1 x 35 ²)	(2 / 1c)	45821	13.9	0.451	0.393
(1 x 50 ²)	(1 / 1c)	45822	16.5	0.651	0.560
(1 x 70 ²)	(2 / 0 / 1c)	45823	18.3	0.883	0.873
(1 x 95 ²)	(3 / 0 / 1c)	45824	20.3	1.099	1.029
(1 x 120 ²)	(4 / 0 / 1c)	45825	22.2	1.373	1.272
(1 x 150 ²)	(250 MCM / 1c)	45826	25.0	1.716	1.578
(1 x 185 ²)	(350 MCM / 1c)	45827	27.4	2.081	1.911
(1 x 240 ²)	(400 MCM / 1c)	45828	31.1	2.685	2.451
(1 x 300 ²)	(500 MCM / 1c)	45829	35.4	3.393	2.997



Subject to change.

Additional cable types upon request.

DATA 400 C

Shielded continuous bending hi-flex PVC control cables



Picture obtainable.

Up to 4 million motion cycles!

Up to 50 m travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- medium to heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded bare copper wires class 6 in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PVC
Core identification:	core identification coloured according to DIN 47100
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Shielding:	coverage nom. 83 %
Outer jacket:	KS-PVC
Jacket color:	coloured/black
Inner jacket:	KS-PVC

Technical Data

Temperature range:	– 5 to + 80 °C
Minimum bend radius while moved:	KR _{min} ≥ 7.5 x Ø
v _{max} supported:	5 m/s
v _{max} gliding:	3 m/s
a _{max} :	20 m/s²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/500 V according to UL 600 V
Approvals:	UL, cUL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Type selection

DATA 400 C – shielded

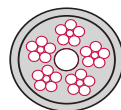
core number x nominal-cross-section in mm²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(4 x 0.25²)	24 / 4c	48623	6.9	0.065	0.029
(8 x 0.25²)	24 / 8c	48627	9.1	0.109	0.056
(25 x 0.25²)	24 / 25c	48638	15.3	0.286	0.134
(4 x 0.34²)	22 / 4c	48647	7.3	0.077	0.041
(5 x 0.34²)	22 / 5c	48648	7.7	0.085	0.046
(7 x 0.34²)	22 / 7c	48649	9.0	0.116	0.058



Subject to change.

Additional cable types upon request.

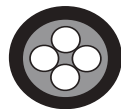
Picture obtainable.



Core insulation
KS-PP
bundled stranding
(> 8 cores)



Outer jacket
KS-PUR
valley-sealed extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

DATA 700 – 300 V / 600 V

Unshielded continuous bending hi-flex PUR control cables

Up to
7 million
motion cycles!

Up to
500 m
travel length!



Developed for

- systems engineering and mechanical engineering
- crane and conveyor equipment
- monitoring, measuring and control cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-dependent
Core insulation:	KS-PP
Core identification:	core identification coloured according to DIN 47100
Core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
Outer jacket:	KS-PUR
Jacket color:	coloured/black

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	≥ 30 MΩ x km
Rated voltage:	according to VDE 300/500 V, according to UL 300 V/600 V
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

DATA 700 – 300 V – unshielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
6 x 0.25 ²	24 / 3c	45355	6.0	0.043	0.014
7 x 0.25 ²	24 / 4c	45356	6.5	0.050	0.017
8 x 0.25 ²	24 / 5c	45357	7.0	0.057	0.019
9 x 0.25 ²	24 / 7c	45358	8.3	0.075	0.023
10 x 0.25 ²	24 / 8c	45359	9.1	0.085	0.024
12 x 0.25 ²	24 / 12c	45360	9.2	0.094	0.029
15 x 0.25 ²	24 / 15c	45361	9.8	0.123	0.039



Type selection

DATA 700 – 600 V – unshielded

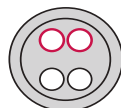
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
3 x 0.34 ²	22 / 3c	45372	5.1	0.033	0.010
4 x 0.34 ²	22 / 4c	45373	5.5	0.037	0.014
5 G 0.34 ²	22 / 5c	45374	5.9	0.043	0.017
7 x 0.34 ²	22 / 7c	45376	7.0	0.061	0.024
8 x 0.34 ²	22 / 8c	45377	7.7	0.072	0.027
12 G 0.34 ²	22 / 12c	45380	9.8	0.111	0.041
15 x 0.34 ²	22 / 15c	45382	10.9	0.133	0.053



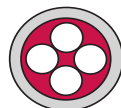
Subject to change.

Additional cable types upon request.

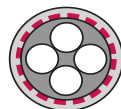
Picture obtainable.



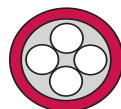
Core insulation
KS-PP
stranded in pairs



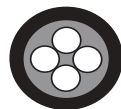
Inner jacket
KS-TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

DATA 700 TPI C

Shielded continuous bending hi-flex PUR data cables

Up to
7 million
motion cycles!

Up to
200 m
travel length!



Developed for

- measurement and control equipment
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PP
Core identification:	according to DIN 47100
Core stranding:	cores bundled in pairs in short pitches with minimal torsion
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket color:	black
Inner jacket:	KS-TPE

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/500 V according to UL 300 V
Approvals:	UL, cUL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

DATA 700 TPI C – shielded

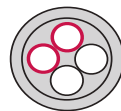
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(1 x 2 x 0.25 ²)	(23 / 2c / 1p)	45622	5.4	0.050	0.016
(2 x 2 x 0.25 ²)	(23 / 2c / 2p)	45623	7.0	0.061	0.023
(3 x 2 x 0.25 ²)	(23 / 2c / 3p)	45624	8.3	0.092	0.037
(4 x 2 x 0.25 ²)	(23 / 2c / 4p)	45625	8.8	0.105	0.045
(5 x 2 x 0.25 ²)	(23 / 2c / 5p)	45626	9.4	0.120	0.057
(6 x 2 x 0.25 ²)	(23 / 2c / 6p)	45627	10.0	0.129	0.061
(8 x 2 x 0.25 ²)	(23 / 2c / 8p)	45628	11.7	0.168	0.086
(10 x 2 x 0.25 ²)	(23 / 2c / 10p)	45629	12.1	0.179	0.095
(12 x 2 x 0.25 ²)	(23 / 2c / 12p)	45630	12.2	0.184	0.100
(16 x 2 x 0.25 ²)	(23 / 2c / 16p)	45632	13.6	0.229	0.124
(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45634	7.4	0.071	0.032
(2 x 2 x 0.5 ²)	(20 / 2c / 2p)	45635	9.2	0.106	0.050
(3 x 2 x 0.5 ²)	(20 / 2c / 3p)	45636	9.8	0.128	0.058
(4 x 2 x 0.5 ²)	(20 / 2c / 4p)	45637	10.4	0.144	0.078
(5 x 2 x 0.5 ²)	(20 / 2c / 5p)	45638	11.4	0.171	0.091
(6 x 2 x 0.5 ²)	(20 / 2c / 6p)	45639	12.2	0.191	0.106
(10 x 2 x 0.5 ²)	(20 / 2c / 10p)	45641	15.0	0.287	0.178
(12 x 2 x 0.5 ²)	(20 / 2c / 12p)	45642	15.3	0.291	0.204
(14 x 2 x 0.5 ²)	(20 / 2c / 14p)	45643	16.2	0.353	0.218
(1 x 2 x 0.75 ²)	(18 / 2c / 2p)	45646	7.9	0.085	0.029
(2 x 2 x 0.75 ²)	(18 / 2c / 1p)	45647	10.1	0.136	0.068
(4 x 2 x 0.75 ²)	(18 / 2c / 4p)	45649	11.5	0.180	0.105
(5 x 2 x 0.75 ²)	(18 / 2c / 5p)	45650	12.4	0.216	0.124
(6 x 2 x 0.75 ²)	(18 / 2c / 6p)	45651	13.4	0.245	0.155
(8 x 2 x 0.75 ²)	(18 / 2c / 8p)	45652	15.9	0.348	0.215
(12 x 2 x 0.75 ²)	(18 / 2c / 12p)	45654	17.8	0.433	0.293
(12 x 2 x 1.0 ²)	(17 / 2c / 12p)	45665	19.1	0.502	0.391



Subject to change.

Additional cable types upon request.

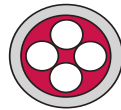
Picture obtainable.



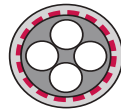
Core insulation
KS-PP
stranded in pairs



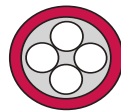
Element shield
continuous bending hi-flex, tin-plated braided copper shield



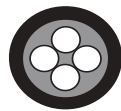
Inner jacket
KS-TPE
valley-sealed, pressure extruded, hi-flex design



Overall shield
continuous bending hi-flex, tin-plated copper braiding for smallest bend radii



Outer jacket
KS-PUR
pressure extruded hi-flex design extremely abrasion-resistant



Jacket color black
ozone-resistant UV-resistant

Up to
7 million
motion cycles!



Up to
500 m
travel length!



Developed for

- measurement and control equipment
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	finely stranded conductors class 6 of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP
Core identification:	according to DIN 47100 part number 45669, 45679: black with white numbers
Core stranding:	cores bundled in pairs in short pitches with minimal torsion
Shielding:	coverage nom. 85 %
Outer jacket:	KS-PUR
Jacket color:	black/purple (type dependent) part number 45669, 45679: black/black with ICC color identification
Inner jacket pairs:	KS-TPE
Inner jacket:	KS-TPE

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	20 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 30 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 300/300 V according to UL 300 V part number 45668, 45669, 45679: according to VDE 0.6/1 kV according to UL 1 kV

Approvals: UL, cUL,
based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

DATA 700 TPI CD – double-shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(3 x (2 x 0.25 ²))	((24 / 2c) / 3p)	45661	12.4	0.197	0.077
(4 x (2 x 0.5 ²))	((20 / 2c) / 4p)	45662	15.6	0.326	0.158
(10 x (2 x 0.5 ²))	((20 / 2c) / 10p)	45664	28.6	0.870	0.335



DATA/POWER 700 TPI CD – double-shielded

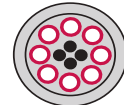
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(6 x (2 x 1 ²))	((20 / 2c) / 6p)	45668	22.9	0.658	0.300
(6 x (2 x 1.5 ²))	((16 / 2c) / 6p)	45669	27.0	0.928	0.403
(10 x (2 x 1.5 ²))	((16 / 2c) / 10p)	45679	37.5	1.771	0.752



Subject to change.

Additional cable types upon request.

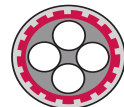
Picture obtainable.



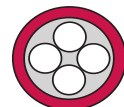
Core insulation
KS-PP
concentrically
stranded



Inner jacket
KS-PP
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-platedcopper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant

PROFIBUS 700 C

Shielded continuous bending hi-flex Profibus PUR cables

Up to
7 million
motion cycles!

Up to
100 m
travel length!



Developed for

- Profibus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP/TPE
Core identification:	coloured, Profibus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket color:	purple (according to DESINA)
Inner jacket:	KS-PP/TPE

Technical Data

Temperature range:	– 20 to + 60 °C
Minimum bend radius while moved:	KR _{min} ≥ 15 x Ø
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/300 V
Approvals:	UL, based on VDE

varying parameters possible – please contact us

Subject to change.

Subject to change.

Additional cable types upon request.

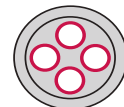
Type selection

PROFIBUS 700 C – shielded

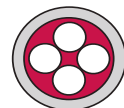
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45690	9.5	0.086	0.039



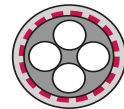
Picture obtainable.



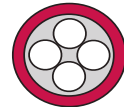
Core insulation
KS-PP
star quad
stranded



Inner jacket
KS-PP
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 85 %



Outer jacket
KS-PUR
pressure extruded
hi-flex design
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

Up to
7 million
motion cycles!



Up to
200 m
travel length!



Developed for

- CAN bus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP/TPE
Core identification:	coloured, CAN-BUS
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket color:	black with ICC color identification based on the DESINA color code
Inner jacket:	KS-PP/TPE

Technical Data

Temperature range:	– 30 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$ (– 30 to + 70 °C) $KR_{min} \geq 7.5 \times \varnothing$ (– 5 to + 70 °C)
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 300/300 V according to UL 300 V
Approvals:	UL, based on VDE
varying parameters possible – please contact us	

Subject to change.

Subject to change.

Additional cable types upon request.

Type selection

CAN-BUS 700 C – shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45670	8.0	0.085	0.033
(2 x 2 x 0.5 ²)	(20 / 2c / 2p)	45672	8.4	0.095	0.044



USB S 700 C

Shielded continuous bending hi-flex USB PUR cables



Up to
7 million
motion cycles!

Up to
5 m
travel length!



Developed for

- USB applications
- data and image transmission
- transmission lengths up to 5 m
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- ozone-resistant
- CFC-free
- silicone-free
- flame-retardant
- metal-free

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	type-optimized
Core insulation:	KS-PP/TPE
Core identification:	coloured, red, black/white, white, green
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket color:	purple (according to DESINA)

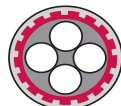
Technical Data

Temperature range:	– 10 to + 70 °C
Minimum bend radius while moved:	KR _{min} ≥ 10
v _{max} supported:	3.5 m/s
v _{max} gliding:	2 m/s
a _{max} :	10 m/s ²
Insulation resistance:	≥ 10 MΩ x km
Rated voltage:	according to VDE 30 V according to UL 30 V
Transmission length:	nom. 5 m
Approvals:	UL, based on VDE

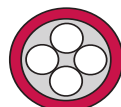
varying parameters possible – please contact us



Core insulation
KS-PP
concentrically
stranded



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Picture obtainable.

Subject to change.

Type selection

USB S 700 C

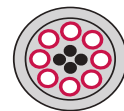
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(1 x 2 x 28 AWG + 2 x 20 AWG)	(28 / 2c + 20 / 2c)	45686	5.2	0.045	0.030



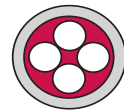
Subject to change.

Additional cable types upon request.

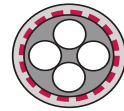
Picture obtainable.



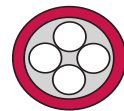
Core insulation
KS-PP/TPE
concentrically
stranded



Inner jacket
KS-PP/TPE
valley-sealed,
pressure extruded,
hi-flex design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 85 %



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

INTERBUS 700 C

Shielded continuous bending hi-flex Interbus PUR cables

Up to
7 million
motion cycles!

Up to
200 m
travel length!



Developed for

- Interbus applications
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-stable
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- ozone-resistant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PP/TPE
Core identification:	coloured, Interbus
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket color:	purple (according to DESINA)

Technical Data

Temperature range:	– 30 to + 70 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE, $\varnothing 0,25 \text{ mm}^2$ 30 V $\varnothing 1 \text{ mm}^2$ 300/300 V according to UL 300 V
Approvals:	UL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

INTERBUS 700 C – shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
(3 x 2 x 0.25 ²)	(24 / 2c / 3p)	45676	8.3	0.085	0.047
(3 x 1 ² + 3 x 2 x 0.25 ²)	(17 / 2c + 24 / 2c / 3p)	45678	10.6	0.155	0.088



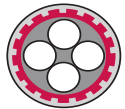
Subject to change.

Additional cable types upon request.

Picture obtainable.



Core insulation
KS-PP/TPE
concentrically
stranded



Overall double-shielding
continuous bending hi-flex,
tin-plated copper braiding
Coverage: approx. 90 %
and foil shield



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

CAT5E / CAT6 700 CD

Shielded continuous bending hi-flex CAT5E / CAT6 PUR cable

Up to
7 million
motion cycles!

Up to
60 m
travel length!



Developed for

- computer cables
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PP/TPE
Core identification:	coloured, white/blue, blue, white/orange, orange, white/green, green, white/brown, brown
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 85 %
Outer jacket:	KS-PUR
Jacket color:	black with ICC color identification based on the DESINA color code

Technical Data

Temperature range:	– 20 to + 60 °C
Minimum bend radius while moved:	$KR_{min} \geq 10 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	according to VDE 30 V according to UL 30 V
Approvals:	UL, based on VDE

varying parameters possible – please contact us

Subject to change.

Type selection

CAT5E 700 CD – double-shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
((4 x 2 x 0.15 ²))	((26 / 2c / 4p))	45693	6.8	0.055	0.030



CAT6 700 CD – double-shielded

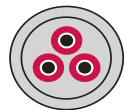
core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
((4 x 2 x 0.24 ²))	((24 / 2c / 4p))	45684	10.8	0.145	0.078



Subject to change.

Additional cable types upon request.

Picture obtainable.



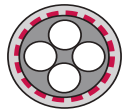
Coax cable
flexible,
continuous bending hi-flex



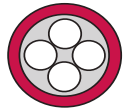
Core insulation
KS-PP/TPE
concentrically
stranded



Element shield
continuous bending hi-flex
copper braiding
– see type/design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 90 %



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant



Jacket color black
ozone-resistant
UV-resistant

Up to
2 million
motion cycles!



Up to
50 m
travel length!



Developed for

- image transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- CFC-free
- silicone-free

Design

Conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
Core insulation:	KS-PVC
Core identification:	part number 45680: black part number 45694: black with white numbers
Core stranding:	optimized stranding with maximum flexural strength
Shielding:	part number 45694: coverage 90 %
Outer jacket:	KS-PUR
Jacket color:	black

Technical Data

Temperature range:	type dependent
Minimum bend radius while moved:	type dependent
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max}:	10 m/s ²
Rated voltage:	type dependent
Approvals:	type dependent
varying parameters possible – please contact us	

Subject to change.

Subject to change.

Additional cable types upon request.

Type selection

KOAX 700 CD – 50 Ohm – double-shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	approx. OD in mm	weight kg/m	Cu index kg/m
(1 x (1HF50)) 50 Ohm	(1 x (1HF50))	45680	9	0.059	0.021
(3 x (1HF50)) 50 Ohm	(3 x (1HF50))	45683	12	0.140	0.060
(5 x (1HF50)) 50 Ohm	(5 x (1HF50))	45685	15	0.230	0.099



Type selection

KOAX 700 CD – 75 Ohm – double-shielded

core number x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	approx. OD in mm	weight kg/m	Cu index kg/m
(1 x (1HF75)) 75 Ohm	(1 x (1HF75))	45691	9	0.061	0.024
(3 x (1HF75)) 75 Ohm	(3 x (1HF75))	45694	12	0.143	0.063
(5 x (1HF75)) 75 Ohm	(5 x (1HF75))	45695	15	0.238	0.102



LWL 700

Continuous bending hi-flex multi-mode glass fiber optic cable



Picture obtainable.

**Up to
7 million
motion cycles!****Up to
500 m
travel length!**TSUBAKI KABELSCHLEPP
cables for
cable carriers

Developed for

- light signal transmission
- sensor equipment
- data and signal cables
- extremely heavy loads

Properties

- halogen-free
- Multimode 1300 nm
- RoHS-conform
- absolutely EMC safety
- CFC-free
- silicone-free
- flame-retardant
- metal-free

Design

Conductor:	glass
Conductor insulation:	KS-PP/TPE
Conductor identification:	coloured, color coded
Conductor stranding:	concentrically around center element
Outer jacket:	KS-PUR
Jacket color:	black

Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved*:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	3.5 m/s
v_{max} gliding:	2 m/s
a_{max} :	10 m/s ²
Approvals:	IEC 60794 IEC 61300

varying parameters possible – please contact us

Subject to change.

Type selection

LWL 700

number of conductors x nominal-cross-section in μm	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m
6G50/125	6G 50/125	45696	13.4	0.140
6G50/125	6G 62.5/125	45697	13.4	0.140
6G62,5/125	12G 50/125	45698	13.4	0.140
12G62,5/125	12G 62.5/125	45699	13.4	0.140



Subject to change.

Additional cable types upon request.

SYSTEM S 700 C

Shielded continuous bending hi-flex PUR signal cables



Picture obtainable.

Up to
5 million
motion cycles!

Up to
50 meter
travel length



Developed for

- KS alternative to OEM standards
- long transmission distances
- servo drives
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- DESINA

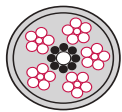
Design

Conductor:	extra-fine wire conductor made from bare or tin-plated copper wires, design-optimized for maximum flexural strength
Center element:	type-optimized
Core insulation:	KS-PP
Core identification:	according to OEM specifications (type-dependent)
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 80/85 % (type-dependent)
Outer jacket:	KS-PUR
Jacket color:	green (according to DESINA)

Technical Data

Temperature range:	- 30 to + 90 °C
Minimum bend radius while moved*:	$KR_{min} \geq 7.5 \times \varnothing$
v_{max} supported:	5 m/s
v_{max} gliding:	5 m/s
a_{max}:	50 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	OEM type-dependent
Approvals:	UL, or UL/CSA (type-dependent), based on VDE

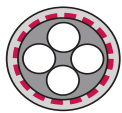
varying parameters possible – please contact us



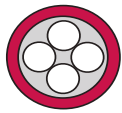
Core insulation
KS-PP/TPE
hybrid stranded



Element shield
continuous bending hi-flex,
in-plated braided copper shield
with the option of foil shield
– see type/design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 80 %



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Subject to change.

Type selection

SYSTEM S 700 C –shielded

KS alternative to OEM-standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
6FX8008 1BD11	(8 x 2 x 0.18 ²)	(25 / 2c / 8p)	46100	8.0	0.79	0.054
6FX8008 1DC00	(2 x 2 x 0.25 ² + 1 x 2 x 0.38 ²)	(23 / 2c / 2p + 21 / 2c / 1p)	46104	7.0	0.72	0.041
6FX8008 1BD21	(4 x 2 x 0.38 ² + 4 x 0.5 ²)	(21 / 2c / 4p + 20 / 4c)	46105	10.1	0.135	0.083
6FX8008 1BD31	(3 x (2 x 0.14 ²) + 2 x (0.5 ²))	((26 / 2c) / 3p + (20) / 2c)	46110	9.2	0.119	0.074
6FX8008 1BD41	(3 x (2 x 0.14 ²) + 4 x 0.14 ² + 2 x 0.5 ²)	((26 / 2c) / 3p + 26 / 4c + 20 / 2c)	46115	9.1	0.120	0.066
6FX8008 1BD51	(3 x (2 x 0.14 ²) + 4 x 0.14 ² + 4 x 0.25 ² + 2 x 0.5 ²)	((26 / 2c) / 3p + 26 / 4c + 23 / 2c / 4p) + 20 / 2c	46120	9.8	0.138	0.075
6FX8008 1BD61	(4 x 2 x 0.18 ²)	(25 / 2c / 4p)	46125	6.6	0.057	0.035
6FX8008 1BD71	(2 x 2 x 0.18 ²)	(25 / 2c / 2p)	46130	5.2	0.042	0.024
6FX8008 1BD81	(12 x 0.23 ²)	(23 / 12 c)	46135	7.7	0.074	0.065

KS alternative to OEM-standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
INK 0448	(4 x 2 x 0.25 ² + 2 x 0.5 ²)	(23 / 2c / 4p + 20 / 2c)	46400	8.7	0.106	0.051
INK 0209	(4 x 2 x 0.25 ² + 2 x 1 ²)	(23 / 2c / 4p + 17 / 2c)	46410	9.1	0.099	0.064
INK 0280	(3 x 0.25 ² + 3 x (2 x 0.25 ²) + 2 x 1 ²)	23 / 3c + ((23 / 2c) / 3p + 17 / 2c)	46412	9.3	0.135	0.084
INK 0532	(2 x 0.14 ² + 4 x 1 ² + (4 x 0.14 ²))	(26 / 2c + 17 / 4c + (26 / 4c))	46415	10.0	0.142	0.081

KS alternative to OEM-standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
–	(4 x 2 x 0.14 ² + 4 x 0.5 ²)	(26 / 2c / 4p + 20 / 4c)	46505	8.8	0.100	0.052

KS alternative to OEM-standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
–	(5 x 2 x 0.14 ² + 2 x 0.5 ²)	(26 / 2c / 5p + 20 / 2c)	46090	9.3	0.098	0.072



Subject to change.

Additional cable types upon request.

SYSTEM M 700 C

Shielded continuous bending hi-flex PUR motor/servo drive cables



Picture obtainable.

Up to
5 million
motion cycles!

Up to
50 meter
travel length



Developed for

- KS alternative to OEM standards
- long transmission distances
- motor server/servo drives
- extremely heavy loads

Properties

- oil-resistant
- UV-resistant
- RoHS-conform
- halogen-free
- CFC-free
- silicone-free
- flame-retardant
- DESINA

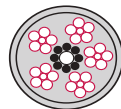
Design

Conductor:	finely stranded conductors of bare copper wires in an optimized hi-flex design
Center element:	NEW – OEM types-optimized
Core insulation:	KS-PP
Core identification:	according to OEM specifications (type-dependent)
Core stranding:	cores type-optimized stranded in short pitches with minimal torsion
Shielding:	coverage 80/85 % (type-dependent)
Outer jacket:	KS-PUR
Jacket color:	orange (according to DESINA)

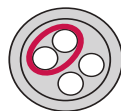
Technical Data

Temperature range:	– 30 to + 90 °C
Minimum bend radius while moved*:	$KR_{min} \geq 7.5 \times \varnothing / \geq 25 \text{ mm}^2$ $KR_{min} \geq 10 \times \varnothing$
v _{max} supported:	5 m/s
v _{max} gliding:	5 m/s
a _{max} :	50 m/s ²
Insulation resistance:	$\geq 10 \text{ M}\Omega \times \text{km}$
Rated voltage:	type-dependent
Approvals:	UL, cUL or UL/CSA (type-dependent), based on VDE
varying parameters possible – please contact us	

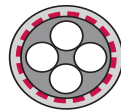
Subject to change.



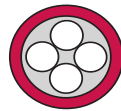
Core insulation
KS-PP/TPE
hybrid stranded



Element shield
continuous bending hi-flex,
in-plated braided copper shield
with the option of foil shield
– see type/design



Overall shield
continuous bending hi-flex,
tin-plated copper braiding
for smallest bend radii
Coverage: approx. 80 %



Outer jacket
KS-PUR
pressure extruded
hi-flex design
UV-resistant
extremely abrasion-resistant

Type selection

SYSTEM M 700 C – shielded

KS alternative to OEM standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
6FX8008 1BB11	(4 G 1.5 ²)	(16 / 4c)	46200	9.4	0.144	0.080
6FX8008 1BB21	(4 G 2.5 ²)	(14 / 4c)	46205	10.9	0.209	0.120
6FX8008 1BB31	(4 G 4 ²)	(12 / 4c)	46210	12.2	0.298	0.195
6FX8008 1BB41	(4 G 6 ²)	(10 / 4c)	46215	14.7	0.439	0.296
6FX8008 1BB51	(4 G 10 ²)	(8 / 4c)	46220	17.8	0.660	0.445
6FX8008 1BB61	(4 G 16 ²)	(6 / 4c)	46225	21.9	1.025	0.730
6FX8008 1BB25	(4 G 25 ²)	(4 / 4c)	46230	25.5	1.225	1.100
6FX8008 1BB35	(4 G 35 ²)	(2 / 4c)	46235	28.9	1.685	1.522
6FX8008 1BB50	(4 G 50 ²)	(1 / 4c)	46240	33.7	2.405	2.165
6FX8008 1BA11	(4 G 1.5 ² + (2 x 1.5 ²))	(16 / 4c + (16 / 2c))	46150	11.9	0.233	0.136
6FX8008 1BA21	(4 G 2.5 ² + (2 x 1.5 ²))	(14 / 4c + (16 / 2c))	46155	13.7	0.313	0.178
6FX8008 1BA31	(4 G 4 ² + (2 x 1.5 ²))	(12 / 4c + (16 / 2c))	46160	15.1	0.416	0.268
6FX8008 1BA41	(4 G 6 ² + (2 x 1.5 ²))	(10 / 4c + (16 / 2c))	46165	17.1	0.546	0.358
6FX8008 1BA51	(4 G 10 ² + (2 x 1.5 ²))	(8 / 4c + (16 / 2c))	46170	19.7	0.757	0.515
6FX8008 1BA61	(4 G 16 ² + (2 x 1.5 ²))	(6 / 4c + (16 / 2c))	46175	23.4	1.095	0.802
6FX8008 1BA25	(4 G 25 ² + (2 x 1.5 ²))	(4 / 4c + (16 / 2c))	46250	26.9	1.540	1.144
6FX8008 1BA35	(4 G 35 ² + (2 x 1.5 ²))	(2 / 4c + (16 / 2c))	46255	31.2	2.033	1.850
6FX8008 1BA50	(4 G 50 ² + (2 x 1.5 ²))	(1 / 4c + (16 / 2c))	46260	34.3	2.755	2.540

KS alternative to OEM standard	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
INK 0653	(4 G 1 ² + 2 x (2 x 0.75 ²))	(17 / 4c + (18 / 2c) / 2p)	46300	12.7	0.225	0.136
INK 0650	(4 G 1.5 ² + 2 x (2 x 0.75 ²))	(16 / 4c + (18 / 2c) / 2p)	46305	12.5	0.290	0.170
INK 0602	(4 G 2.5 ² + 2 x (2 x 1 ²))	(14 / 4c + (18 / 2c) / 2p)	46315	14.9	0.336	0.229
	(4 G 4 ² + (2 x 1 ²) + (2 x 1.5 ²))	(12 / 4c + (17 / 2c) / 2p + 16 / 2c)	46323	17.5	0.475	0.328
INK 0604	(4 G 6 ² + (2 x 1 ²) + (2 x 1.5 ²))	(10 / 4c + (17 / 2c) / 2p + 16 / 2c)	46330	19.1	0.615	0.445
INK 0605	(4 G 10 ² + (2 x 1.5 ²) + (2 x 1 ²))	(8 / 4c + (17 / 2c) / 2p + 16 / 2c)	46345	23.3	0.875	0.626
INK 0606	(4 G 16 ² + 2 x (2 x 1.5 ²))	(6 / 4c + (16 / 2c) / 2p)	46350	26.5	1.170	0.922
INK 0607	(4 G 25 ² + 2 x (2 x 1.5 ²))	(4 / 4c + (16 / 2c) / 2p)	46355	30.8	1.590	1.280
INK 0667	(4 G 35 ² + 2 x (2 x 1.5 ²))	(2 / 4c + (16 / 2c) / 2p)	46360	32.8	2.196	1.621
INK 0668	(4 G 50 ² + 2 x (2 x 1.5 ²))	(1 / 4c + (16 / 2c) / 2p)	46365	37.3	3.000	2.600



Subject to change.

Additional cable types upon request.

Pre-assembled OEM high flex cables

You need connection-ready harnessed **bus cables**?
Or harnessed **signal- or power cables** for drives –
in accordance to OEM specifications?

Simply order by quoting just the **order number and
cable length**, and wait for your original quality
goods to arrive.

Connection-ready harnessed cables

- easy to order with just order number and cable length
- in accordance to OEM specifications
- Just-in-time delivery of three work days
- **no minimum order quantities**
- **individual cable lengths without surcharge**
- checked and monitored for reliable connection

Properties of the cables:



Subject to change.

USB S 700 C pre-assembled

Shielded continuous bending hi-flex USB PUR cable

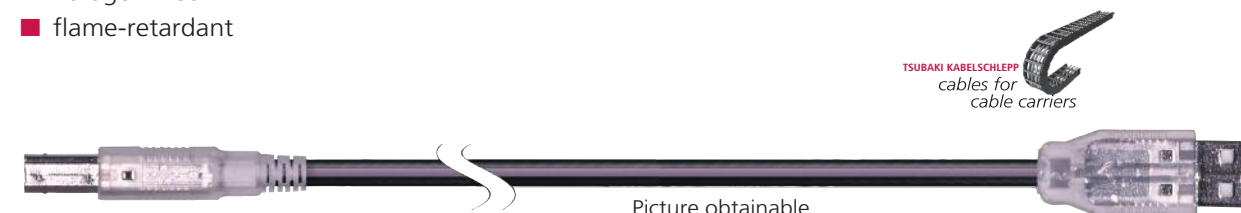
Properties of the cables:

- UV-resistant
- CFC-free
- Minimum bend radius $10 \times \varnothing$
- halogen-free
- flame-retardant

Approvals:
UL,
based on VDE,
RoHS conform



TSUBAKI KABELSCHLEPP
cables for
cable carriers



Picture obtainable.

cable type	approx. diameter mm	minimum bend radius moved KR _{min}
USB 700 C – type A/B	5.2	$10 \times \varnothing$

Smaller bend radii are possible in many cases – contact us about options.

CAT5E 700 C pre-assembled

Shielded continuous bending hi-flex CAT5E PUR cable

Properties of the cables:

- UV-stable
- CFC-free
- Minimum bend radius $7.5 \times \varnothing$
- halogen-free
- flame-retardant

Approvals:
UL,
based on VDE,
RoHS conform



TSUBAKI KABELSCHLEPP
cables for
cable carriers



Picture obtainable.

cable type	approx. diameter mm	minimum bend radius moved KR _{min}
CAT5E 8-stranded straight	6.80	$7.5 \times \varnothing$
CAT5E 8-stranded cross-over	6.80	$7.5 \times \varnothing$

Smaller bend radii are possible in many cases – contact us about options.

Pre-assembled PUR signal cables

Cables with connections compatible with the OEM standards

Properties of the cables:

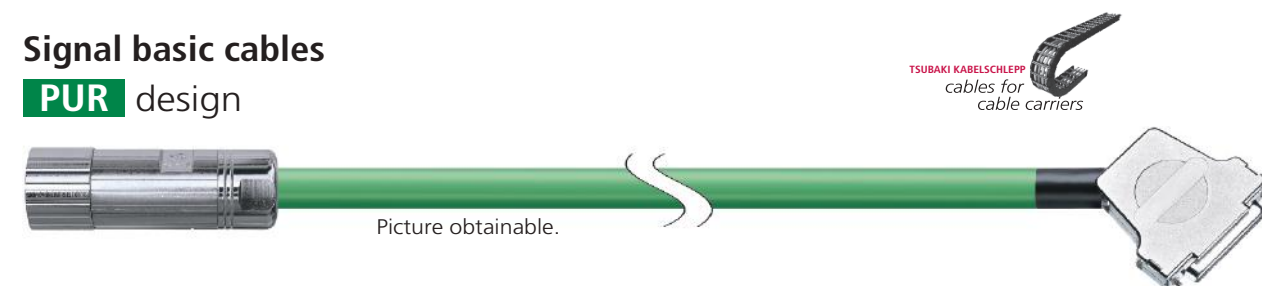
- UV-resistant
- CFC-free
- Minimum bend radius $7.5 \times \varnothing$
- halogen-free
- flame-retardant

- Approvals:
UL, CSA,
based on VDE,
RoHS conform



Signal basic cables

PUR design

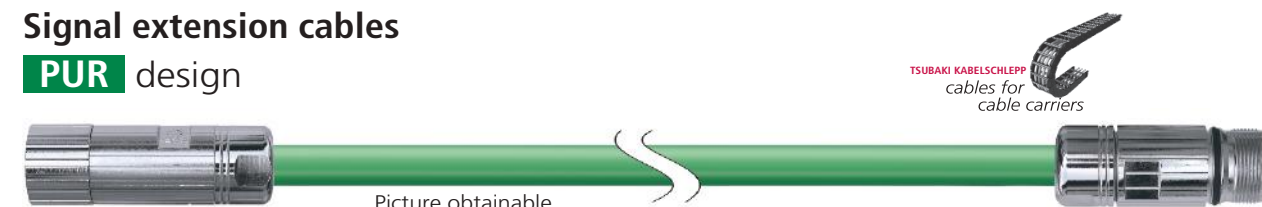


KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 2AD00	9.50	$7.5 \times \varnothing$
6FX8002 2CA31	10.10	$7.5 \times \varnothing$
6FX8002 2CA51	9.50	$7.5 \times \varnothing$
6FX8002 2CA61	9.50	$7.5 \times \varnothing$
6FX8002 2CF02	9.50	$7.5 \times \varnothing$
6FX8002 2CH00	9.50	$7.5 \times \varnothing$
6FX8002 2EQ00	10.10	$7.5 \times \varnothing$
6FX8002 2EQ10	10.10	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Signal extension cables

PUR design



KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 2AD04	9.50	$7.5 \times \varnothing$
6FX8002 2CA34	10.10	$7.5 \times \varnothing$
6FX8002 2CA54	9.50	$7.5 \times \varnothing$
6FX8002 2CB54	9.30	$7.5 \times \varnothing$
6FX8002 2CF04	9.50	$7.5 \times \varnothing$
6FX8002 2EQ14	10.10	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Subject to change.

Pre-assembled PUR power cables

Cables with connections compatible with the OEM standards

Properties of the cables:

- UV-resistant
- CFC-free
- Minimum bend radius $7.5 \times \varnothing$
- halogen-free
- flame-retardant

- Approvals:
UL, CSA,
based on VDE,
RoHS conform



Power basic cables without brake wires

PUR design

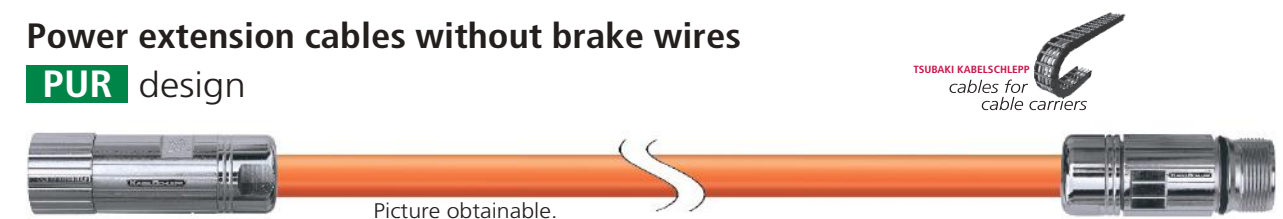


KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA01	10.40	$7.5 \times \varnothing$
6FX8002 5CA11	11.70	$7.5 \times \varnothing$
6FX8002 5CA21	10.40	$7.5 \times \varnothing$
6FX8002 5CA31	11.70	$7.5 \times \varnothing$
6FX8002 5CA41	13.50	$7.5 \times \varnothing$
6FX8002 5CA51	16.30	$7.5 \times \varnothing$
6FX8002 5CA61	19.70	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Power extension cables without brake wires

PUR design



KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5CA05	10.40	$7.5 \times \varnothing$
6FX8002 5CA15	11.70	$7.5 \times \varnothing$
6FX8002 5CA28	10.40	$7.5 \times \varnothing$
6FX8002 5CA38	11.70	$7.5 \times \varnothing$
6FX8002 5CA48	13.50	$7.5 \times \varnothing$
6FX8002 5CA58	16.30	$7.5 \times \varnothing$
6FX8002 5CA68	19.70	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Subject to change.

Pre-assembled **PUR** power cables

Cables with connections compatible with the OEM standards

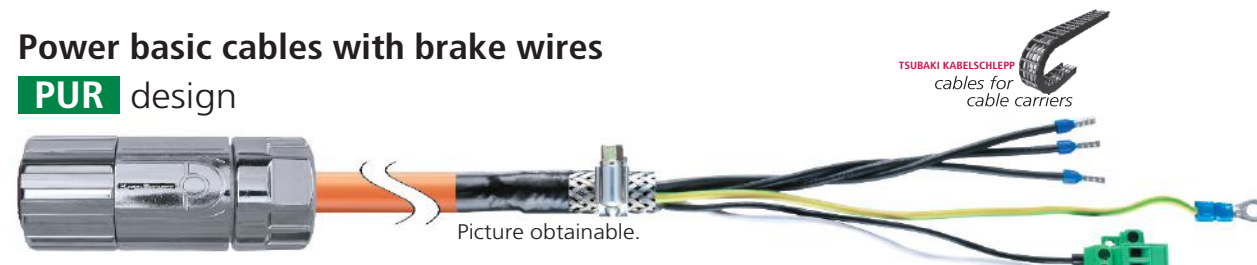
Properties of the cables:

- UV-resistant
 - CFC-free
 - Minimum bend radius $7.5 \times \varnothing$
 - halogen-free
 - flame-retardant
- Approvals:
UL, CSA,
based on VDE,
RoHS conform



Power basic cables with brake wires

PUR design

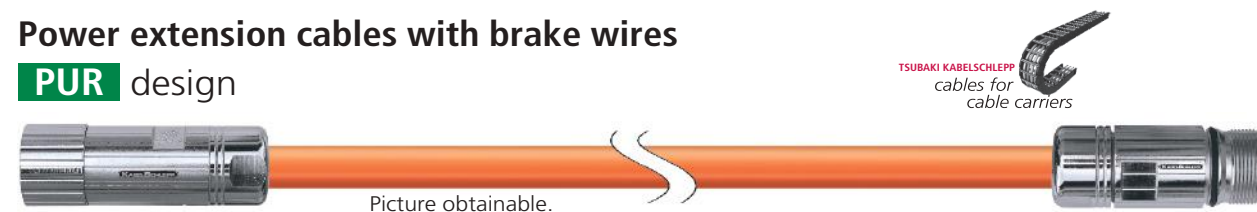


KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5DA01	12.60	$7.5 \times \varnothing$
6FX8002 5DA11	14.00	$7.5 \times \varnothing$
6FX8002 5DA21	12.60	$7.5 \times \varnothing$
6FX8002 5DA31	14.00	$7.5 \times \varnothing$

Varying parameters possible – contact us about options.

Power extension cables with brake wires

PUR design



KS alternative to OEM standard	approx. diameter mm	minimum bend radius moved KR_{min}
6FX8002 5DA05	12.60	$7.5 \times \varnothing$
6FX8002 5DA15	14.00	$7.5 \times \varnothing$
6FX8002 5DA28	12.60	$7.5 \times \varnothing$
6FX8002 5DA38	14.00	$7.5 \times \varnothing$

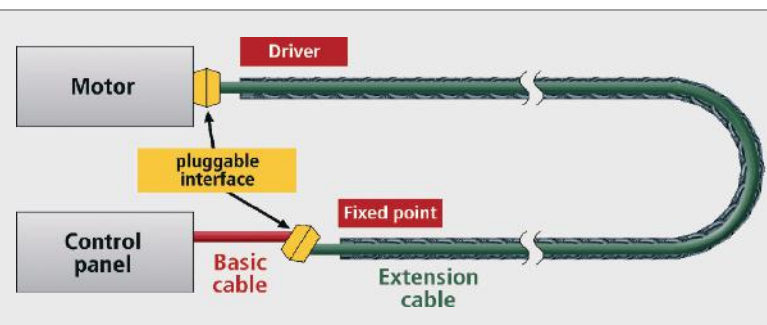
Varying parameters possible – contact us about options.

Extension cables

In addition to connection-ready harnessed basic cables, **extension cables** are also available.

These are available as **signal** and **power cables** for drives – according to OEM specifications.

Simply order by quoting just the **order number and cable length**, and wait for your original quality goods to arrive.



Subject to change.

Application parameters

Application parameters*	CONTROL 200/200 C	CONTROL 400/400 C	POWER 400/400 C	CONTROL / POWER 700/700 C	SYSTEM S 700 SYSTEM M 700
Acceleration a	up to 10 m/s ²	up to 20 m/s ²	up to 20 m/s ²	up to 50 m/s ²	subject to cable type
Speed v, self-supporting	up to 3,5 m/s	up to 5 m/s	up to 5 m/s	up to 20 m/s	subject to cable type
Speed v, gliding	up to 2 m/s	up to 5 m/s	up to 3 m/s	up to 5 m/s	subject to cable type
Travel length recommended application areas	up to 25 m	up to 50 m	up to 50 m	up to 500 m	up to 50 m
DESINA	subject to cable type	subject to cable type	subject to cable type	subject to cable type	subject to cable type
Cold-resistant	•	•	•	•••	••
Minimum bend radius, unshielded	$KR_{min} \geq 10 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing$	–
Minimum bend radius, shielded	$KR_{min} \geq 10 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing$	$KR_{min} \geq 7,5 \times \varnothing^*$	subject to cable type
UL-Approval	+	+	+	+	+
Combined UL/CSA-Approval	subject to cable type	subject to cable type	+	+	subject to cable type
Operating temperature range	- 5 to + 80 °C	- 5 to + 80 °C	- 5 to + 80 °C	- 30 to + 90 °C*	subject to cable type
UV-resistance	+	+	+	• jacket coloured ••• jacket black	• jacket coloured ••• jacket black
OEM-specification	–	–	–	–	+
OEM-specification	–	–	–	–	+
CFC-free	+	+	+	+	+
flame-retardant	+	+	+	+	+
halogen-free	–	–	–	+	subject to cable type
oil-resistant	+	+	+	+	+
silicone-free	+	+	+	+	+

+ Yes – No • suitable •• well suitable ••• very well suitable

* Recommended values for the design of KABELSCHLEPP cable carrier systems, deviations possible in case of data cables.

Subject to change.

Electrical load capacity

Cross section	PVC	PUR	PUR Single cores
0.75 mm²	12 A		15 A
1 mm²	15 A		19 A
1.5 mm²	18 A	23 A	24 A
2.5 mm²	26 A	32 A	32 A
4 mm²	34 A	42 A	42 A
6 mm²	44 A	54 A	54 A
10 mm²	61 A	75 A	73 A
16 mm²	82 A	100 A	98 A
25 mm²	108 A	127 A	141 A
35 mm²	135 A	158 A	176 A
50 mm²	168 A	192 A	216 A
70 mm²	207 A	246 A	279 A
95 mm²	250 A	298 A	342 A
120 mm²	292 A	346 A	400 A
150 mm²	335 A	399 A	464 A
185 mm²	382 A	456 A	533 A
240 mm²	453 A	538 A	634 A
300 mm²	523 A	621 A	736 A
400 mm²			868 A
500 mm²			998 A
700 mm²			1240 A

These values are extracted from DIN VDE 0298-4. The laying procedure "Continuous flexible/moving in a cable carrier" is not standardized. Due to this fact these values are for orientation only. Please observe reduction factors for cumulation of cables and varying ambient temperatures while selecting cables. Please observe additional standards which will be security-relevant for the application.

All data in this publication are to be used as guidelines for planning purposes only. In particular, we do not guarantee that the products supplied suit the users application. It is the customer's responsibility to verify that our products fit the users application specifications.

Conversion factors for different ambient temperatures

Ambient temperatures in °C	Permitted/recommended operating temperature at conductor					
	40 °C	60 °C	70 °C	80 °C	85 °C	90 °C
	Conversion factors, must be applied to the loading capacity information!					
10	1.73	1.29	1.22	1.18	1.17	1.15
15	1.58	1.22	1.17	1.14	1.13	1.12
20	1.41	1.15	1.12	1.10	1.09	1.08
25	1.22	1.08	1.06	1.05	1.04	1.04
30	1.00	1.00	1.00	1.00	1.00	1.00
35	0.71	0.91	0.94	0.95	0.95	0.96
40	–	0.82	0.87	0.89	0.90	0.91
45	–	0.71	0.79	0.84	0.85	0.87
50	–	0.58	0.71	0.77	–	0.82
55	–	0.41	0.61	0.71	–	0.76
60	–	–	0.50	0.63	–	0.71
65	–	–	0.35	0.55	–	0.65
70	–	–	–	0.45	–	0.58
75	–	–	–	0.32	–	0.50
80	–	–	–	–	–	0.41
85	–	–	–	–	–	0.29
90	–	–	–	–	–	–
95	–	–	–	–	–	–

Subject to change.

Color codes

DIN 47100 color code

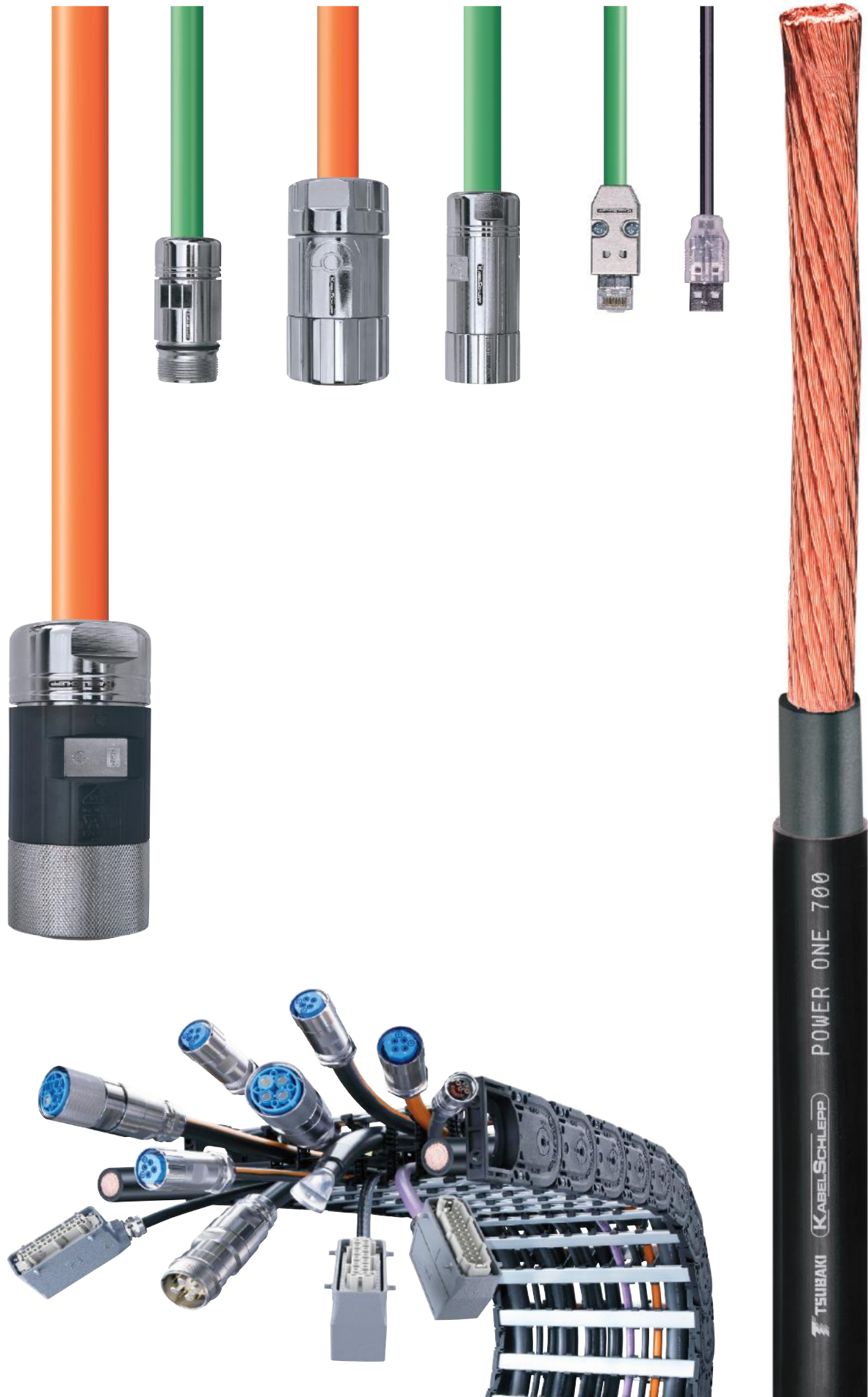
1 white	11 grey-pink	21 white-blue	31 green-blue	41 grey-black
2 brown	12 red-blue	22 brown-blue	32 yellow-blue	42 pink-black
3 green	13 white-green	23 white-red	33 green-red	43 blue-black
4 yellow	14 brown-green	24 brown-red	34 yellow-red	44 red-black
5 grey	15 white-yellow	25 white-black	35 green-black	
6 pink	16 yellow-brown	26 brown-black	36 yellow-black	
7 blue	17 white-grey	27 grey-green	37 grey-blue	
8 red	18 grey-brown	28 yellow-grey	38 pink-blue	
9 black	19 white-pink	29 pink-green	39 grey-red	
10 purple	20 pink-brown	30 yellow-pink	40 pink-red	

The first color describes the base color of the core insulation, the second color that of the printed ring.

Copper wire dimensions according to AWG

AWG-No.	Cross section mm²	Diameter mm	AWG-No.	Cross section mm²	Diameter mm
500	254	20.7	16	1.31	1.29
400	203	18.9	17	1.04	1.15
350	178	17.3	18	0.823	1.024
300	152	16	19	0.653	0.912
250	127	14.6	20	0.519	0.812
4/0	107.2	11.68	21	0.412	0.723
3/0	85	10.4	22	0.325	0.644
2/0	67.5	9.27	23	0.259	0.573
0	53.4	8.25	24	0.205	0.511
1	42.4	7.35	25	0.163	0.455
2	33.6	6.54	26	0.128	0.405
3	26.7	5.83	27	0.102	0.361
4	21.2	5.19	28	0.0804	0.321
5	16.8	4.62	29	0.0646	0.286
6	13.3	4.11	30	0.0503	0.255
7	10.6	3.67	31	0.04	0.227
8	8.366	3.26	32	0.032	0.202
9	6.63	2.91	33	0.0252	0.18
10	5.26	2.59	34	0.04	0.16
11	4.15	2.3	35	0.0161	0.143
12	3.3	2.05	36	0.0123	0.127
13	2.62	1.83	37	0.01	0.113
14	2.08	1.63	38	0.00795	0.101
15	1.65	1.45	39	0.00632	0.0897

Subject to change.



Subject to change.

Subject to change.

Definitions

Definition	Description	Example
Design	number of cores x nominal cross-section in mm ²	3 G 1.5 ²
Design AWG	American Wire Gauge	18AWG/2c
Shielding	without	4 G 1.5 ²
	total	(4 G 1.5 ²)
	total and pair	(4 x (2 x 0.52))
	total and pair and center element	((2 x 0.752) + 2 x (12))
DESINA	decentral and standardized installation technology on machine tools	
Flame-retardant	according to UL or equal specification	
Halogen-free	according to VDE 0282-13 attachment C	700 Series
Oil-resistant	for special applications	see application parameters
UV-resistant	without any restriction	outer jacket: black / black + ICC
UV-stable	time restriction possible	outer jacket: coloured
Stranding	core stranding in bundle technology	5 x 5 x 2.5 ² = 25 x 2.5 ²
	core stranding mixed, in hybrid technology	((4 G 502) + 2 x (2 x 1.5 ²))
	core stranding in layer design	7 x 1.5 ²
	core stranding in pairs	(8 x 2 x 0.752)

Abbreviations

Abbreviation	Description	Note
C	total shield with Cu-braid	optical coverage
D	double-shielded	CD identification
Ø max	maximum outer diameter	see type selection
EMV	electromagnetic compatibility	use shielded cables
LWL	fiber-optic cables – fiber/diameter	e.g. 6G62,5/125
KS-PUR	special KABELSCHLEPP compound	e.g. 11 Y
KS-TPE-E	Thermoplastic Polyester Elastomer	12 Y
KS-PP/TPE	special KABELSCHLEPP compound	e.g. 9 Y
KS-PVC	special KABELSCHLEPP PVC compound	Y
UL/CSA	USA/Canada approval	

Chemical resistance

Chemical product	Resistance				
	Control 200	Control/Power 400	Control/Power 700	Data 700 C/CD	Control/Power 700 C
Inorganic chemicals / aqueous solutions, neutral					
Water	✓	✓	✓	✓	✓
Common salt (10%)	✓	✓	✓	✓	✓
Sodium sulphate (10%)	✓	✓	✓	✓	✓
Aqueous solutions, alkaline					
Soda (10%)	✓	✓	✓	✓	✓
Aqueous solutions, acidic					
Aqueous solutions, oxidising	◆	◆	✓	✓	✓
Hydrogen peroxide (3%)	✓	✓	✓	✓	✓
Potassium permanganate (2%)	✓	✓	✓	✓	✓
Inorganic acids					
Concentrated hydrochloric acid	-	-	-	-	-
Hydrochloric acid (10 %)	✓	✓	✓	✓	✓
Concentrated sulphuric acid	-	-	✓	✓	✓
Sulphuric acid (10 %)	✓	✓	✓	✓	✓
Concentrated nitric acid	-	-	✓	✓	✓
Nitric acid (10 %)	○	○	✓	✓	✓
Inorganic alkalis					
Concentrated sodium hydroxide	-	-	✓	✓	✓
Sodium hydroxide (10 %)	✓	✓	✓	✓	✓
Concentrated caustic potash solution	-	-	✓	✓	✓
Caustic potash solution (10 %)	✓	✓	✓	✓	✓
Concentrated ammonia	○	○	✓	✓	✓
Ammonia (10 %)	✓	✓	✓	✓	✓
Organic chemicals / organic acids					
Concentrated acetic acid	-	-	✓	✓	✓
Acetic acid (10% in H ₂ O)	✓	✓	✓	✓	✓
Tartaric acid (10% in H ₂ O)	✓	✓	✓	✓	✓
Citric acid (10% in H ₂ O)	-	-	-	-	-
Ketones					
Acetone	-	-	-	-	-
Methyl ethyl ketone (MEK)	-	-	-	-	-
Alcohols					
Ethyl alcohol (white spirits)	-	-	○	○	○
Isopropyl alcohol	-	-	✓	✓	✓
Diethylene glycol	○	○	✓	✓	✓
Aromatics					
Toluene	-	-	-	-	-
Xylene	-	-	-	-	-
Fuels					
Petrol	-	-	✓	✓	✓
Diesel	○	○	✓	✓	✓
Kerosene	-	-	✓	✓	✓
Synthetic oils / lubricating oil					
ASTM oil #2	✓	✓	✓	✓	✓
Hydraulic fluid					
Based on mineral oil	-	-	✓	✓	✓
Based on glycol	-	-	✓	✓	✓
Based on synthetic ester	-	-	◆	◆	◆
Vegetable oils					
Rapeseed oil	○	○	✓	✓	✓
Olive oil	○	○	✓	✓	✓
Soybean oil	○	○	✓	✓	✓
Other					
Seawater	✓	✓	✓	✓	✓

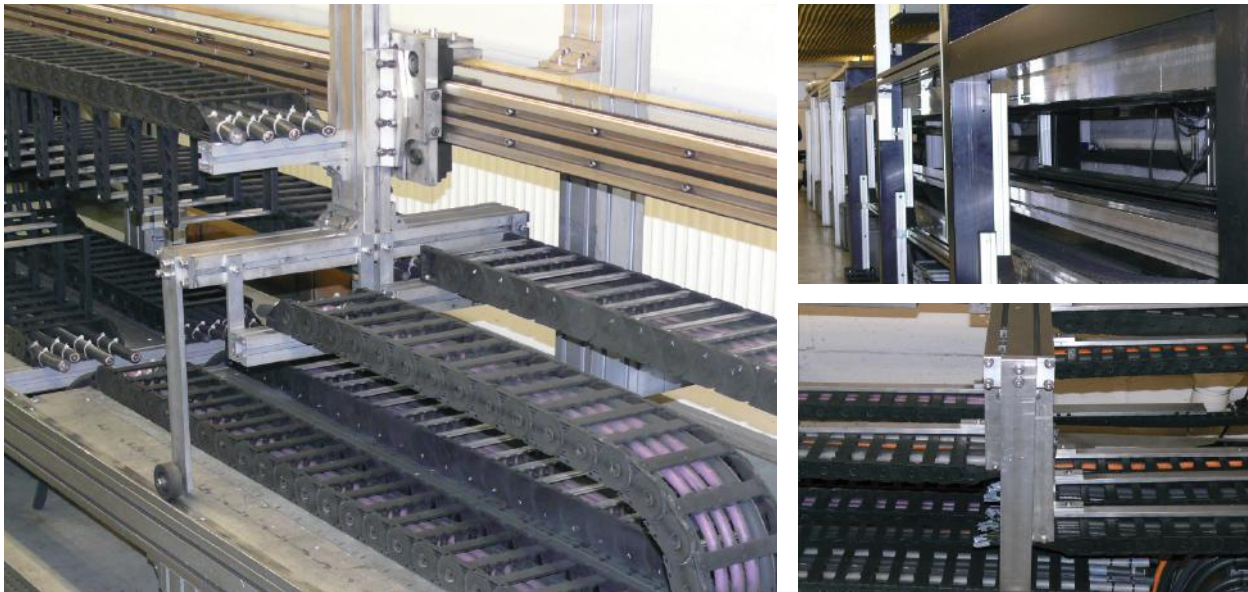
✓ = resistant - = not resistant ○ = short-term resistance ◆ = no data

Subject to change.



You don't know just how good a cable is until you see it in the carrier

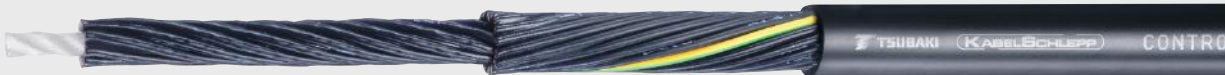
Nothing proves the excellent performance of our products better than an uncompromising test



The following test set-ups were used as the basis for the indicated motion cycles:

Series 200

Test KS VL – 1 200

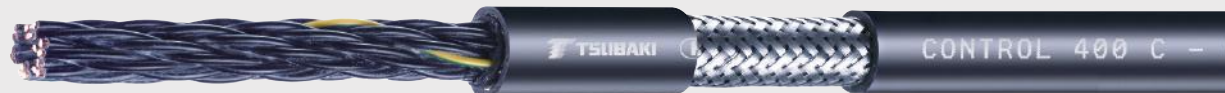


Travel length: 13,8 m Speed: 2 m/s
Acceleration: 2,2 m/s² Radius: 9 to 11 x cable diameter

Result: over two million cycles

Series 400

Test KS VL – 2 400



Travel length: 17,4 m Speed: 2,6 m/s
Acceleration: 2,2 m/s² Radius: 7,5 to 8 x cable diameter

Result: over four million cycles

Series 700

Test KS VL – 3 700



Travel length: 28,3 m Speed: 3 m/s
Acceleration: 2,2 m/s² Radius: 7,5 to 8 x cable diameter

Result: over seven million cycles

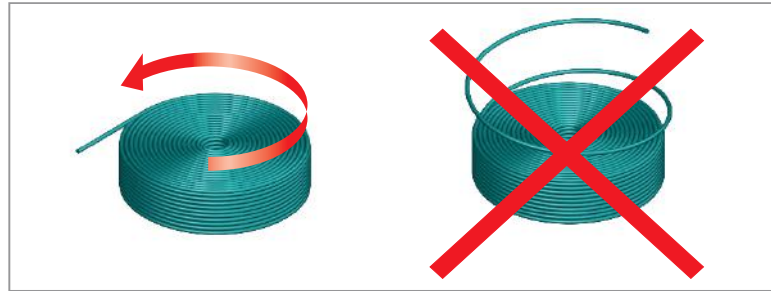
With a cable from KABELSCHLEPP, you play it safe!

Subject to change.

Installing cables into the cable carrier

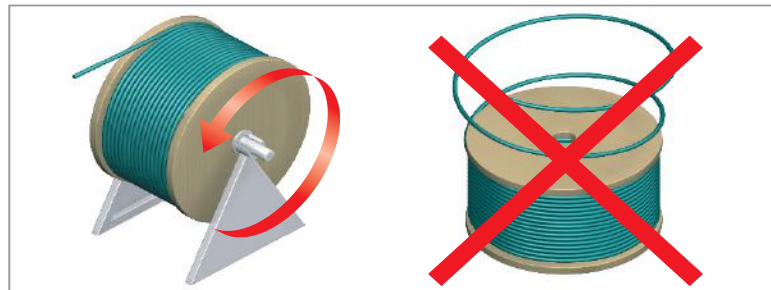
Do not cut ring-coiled cables

When cutting cables prior to installation into the cable carrier, ring-coiled cables must be unspooled tangentially and not be pulled in loops off the top.



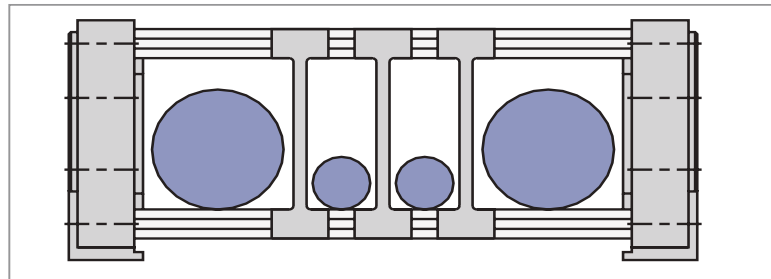
Uncoil cables from reels torsion-free

When cutting cables prior to installation into the cable carrier, drum-coiled cables must be unreeled, twist- and torsion-free.

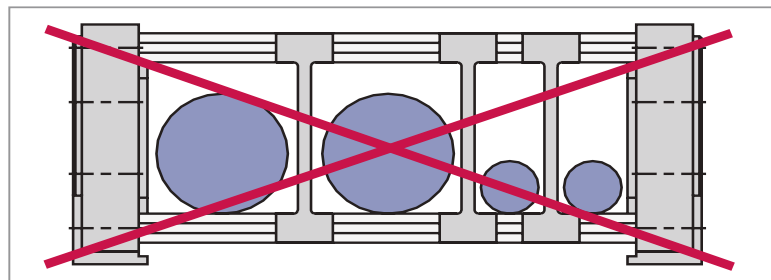


Weight distribution inside the carrier cavity

When inserting the cables into the cable carrier, the cable weight is to be symmetrically distributed within the cavity width to assure maximum cycle life of the cable carrier and reduce the likelihood of cable carrier twist or tilt during operation.



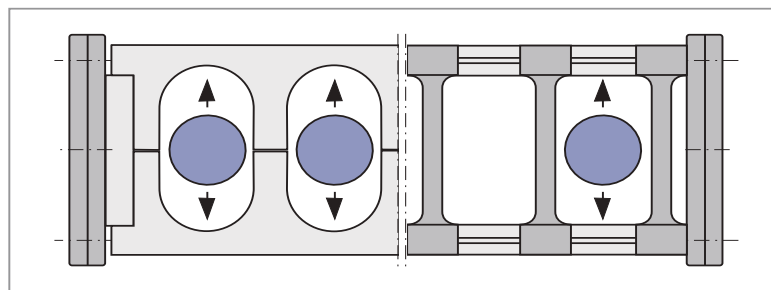
■ Right weight distribution



■ False weight distribution

Cable length

A change in the length of the cables after installation can be balanced out in the carrier loop. Thus, the cables must move freely inside the cable carrier at sufficient length and torsion-free.



Subject to change.

Installing cables into the carrier

The cables must be inserted into the carrier system in a way to allow them to move independently through the carrier's bend radius.

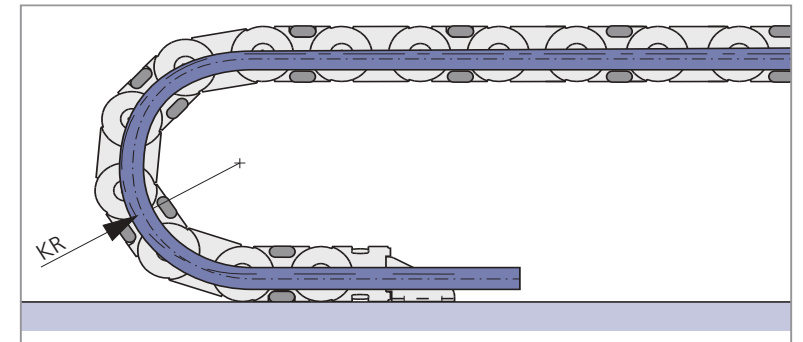
How to do it:

- Always allow sufficient clearance between the dividers and within the cable carrier cavity area.



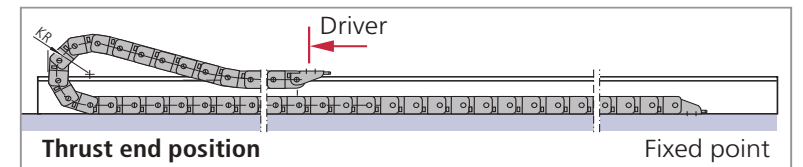
- Insert cables tension-free.

- Never tie-wrap or fasten cables onto the carrier links or cross bars!



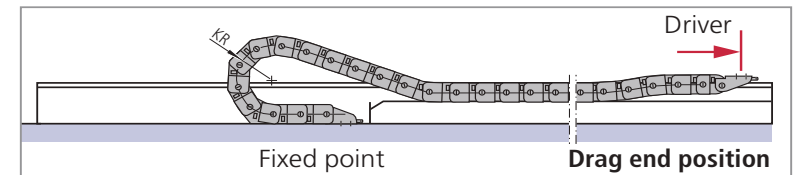
Strain relief at the driven end of the carrier

After positioning the driven end (moving end) in the **retracted position** the cables are strain-relieved at the moving end.



Correct cable length inside the carrier

After repositioning the driven end (moving end) in the carrier's **extended position** the cables are checked for tension-free length in the carrier loop and if necessary, pushed further into the carrier.



Strain relief at the fixed end of the carrier

At this tension-free "installation length", the cables are then strain-relieved at the carrier's fixed point.



Subject to change.

Cable scout

Cable dimensioning for your cable carrier application

Inquiring party:

Company: _____
Contact person: _____
Telephone: _____
E-mail: _____
Street address: _____
City: _____ State: _____ Zip: _____

Cable application:

Is the cable being used in a cable carrier?
☐ yes ☐ no

Number of cables:

_____ please attach cable list

Carrier application:

Machine type: _____
Carrier type: _____
Free installation height H (mm): _____ Bend radius of carrier KR (mm): _____

Operational parameters:

Travel length L_S (m): _____ Speed v (m/s): _____
Acceleration a (m/s²): _____ approx. number of cycles (per year): _____

Cable design:

No. of cores: _____ Core cross-section: _____

Shielding:

☐ unshielded ☐ shielded ☐ doubled shielded

Purchases & delivery:

approx. requirements per yea (m): _____ Lot size (m): _____
☐ coil ☐ reel
Desired date for 1st delivery: _____ Length of 1st delivery: _____
I would like a sample of a similar part no.: _____

Core identification:

☐ numbers + 1x gn/ye ☐ color acc. to DIN 47100

Voltage:

Rated voltage U (V): _____

Capacitance:

core/core c (nF/m): _____ core/shield c (nF/m): _____

Operating conditions:

Operating temperature range: T_{min} (°C): _____ T_{max} (°C): _____
Ambient conditions:
☐ indoor application ☐ outdoor application
Chemical resistance: _____
UV radiation: _____
other radiation: _____

Approvals:

☐ UL ☐ UL/CSA other _____

Other:

Subject to change.

Application examples



■ TOTALTRAX – the system solution for time-saving final assembly and short rework



- Complete systems with a total weight of up to 10+ tons
- Customer inspection, if desired, at the factory
- Special packaging and transportation logistics for delivery to the construction site
- Up to 50 % time saving during final assembly



■ MC-crane cable with cable package, SZL strain relief driven-end plate and sea-watertight AL-guide channel for worldwide use in port cranes



- High-speed test stand
- Durability tests exceeding 25 million cycles



■ Optimized SZL-strain relief for long cable life – safe, compact, easy-to-assemble



■ 125 m travel length: carrier fully harnessed with Series 700

Definitions

Oil-resistant

The term "oil-resistant" means the chemical resistance of cables that are used in an environment where they are continuously exposed to oil or lubricants. Tests are carried out using approx. 55 oils and lubricants.

UV-resistant

The UV-resistance describes the resistance of the cable jacket to premature aging of the material due to sunlight. In addition, cables are also weather-resistant.

CFC-free

Chlorofluorocarbons

Due to the very detrimental effects of CFCs on the environment, and in particular on the ozone layer, we do not use them either in the manufacture of our products or in the products themselves.

Flame-retardant

Flame-retardant describes the fire behavior of cables tested according to IEC 60331. Flame retardant is a characteristic of the materials used in the insulation according to which it only catches fire after a delay when it is subjected to an open flame, and extinguishes itself when the flame is removed.

Silicone-free

The silicones used in cables are a very serious problem when applying paint, because if a surface contains silicone, paints and lacquers will not adhere to it properly. That is why all of our cables are generally silicone-free.

RoHS-compliant

Restriction of the use of certain hazardous substances in electrical and electronic equipment.

In particular, the use of lead, mercury and cadmium should be strictly limited.

Halogen-free

No materials such as chlorine, fluorine, iodine or bromide are used in our cables, because in the event of a fire corrosive gases would form hydrochloric acid, hydrofluoric acid, etc., thus greatly extending the scope of damage.

Profibus

This field bus was developed in Germany in 1989, and today is the most widespread bus of its type worldwide. It is used equally extensively in both production automation and process automation. We make a distinction between two types:

Profibus DP (Decentralized Periphery)

Sensors and actuators are controlled by a central controller. Data rates of up to 12 Mbit/s are possible.

Profibus PA (Process Automation)

Is used in process engineering and process technology. The data transfer rate is only 31.25 kbit/s.

Interbus

Is a field bus developed by the German company Phoenix Contact. The Interbus bus system is widely used in the automotive industry. The standard data transfer rate is 500 kBit/s.

Subject to change.

Definitions

CAN-BUS

Is a bus system developed by Bosch. The CAN bus was developed for use in vehicles. Its data transfer capabilities are thus very large over short distances, but decrease greatly as the distance increases. The data transfer rate up to 40 m is 1 Mbit/s. Variants of the CAN bus:

CAN open – Primarily used in Europe.

DeviceNet – Primarily used in the USA. Developed by Allen-Bradley.

USB

Universal Serial Bus

A serial bus developed by Intel that connects a PC with external devices. USB 2.0 achieves a data rate of 480 Mbit/s, which gives it an advantage over the industrial bus systems, but because it transfers data only in packets, it is less suitable for time-critical applications.

LWL

Fiber-optic cables

Electric signals are converted by an optocoupler into light pulses, transferred via the fiber-optic cable and then converted back. The transfer rate is larger than for all comparable copper cables, and furthermore the cables are not subject to electromagnetic influences, and thus particularly suitable for industrial environments. The data transfer rate at 1300 nm/km is up to 10 Gbit/s. The fiber-optic cables can be made of plastic (POF) or glass.

Cable carrier suitability

Cable carrier suitability designates the characteristic of a cable to be moved continuously in a cable carrier. This characteristic is present if the cable can withstand more than one million motion cycles. All of the cables offered in our catalog are cable carrier suitable.



Servo cable

Servo cables designate cables that, in addition to the electric power required for the drive, can also transmit the signals generated by the servo controller. These measurements are made by means of an encoder such as a resolver, an incremental encoder or an absolute encoder.

Center element

The center element serves to fill the cavity that is present with an extruded jacket. This center element must be able to hold the stranded assembly securely in position. It is one of the essential elements of our cables.

Rated voltage

The rated voltage designates the working range of the cable as defined by standards. The permissible voltage may differ depending on the approval.

Insulation resistance

The insulating materials used oppose the flow of electric current with a very high resistance. This is inversely proportional to the cable length. The insulation resistance is a measure of the quality of the insulating material between two conductors or between a conductor and a shield.

Temperature range

The temperature range designates the range in which the cables can be moved in a cable carrier. It is dependent on the insulating materials employed in the cable. Use outside of the specified temperature spectrum will result in significant damage to the cable.

Subject to change.

Explanations

ICC

Integrated Color Code

Part-extruded color code based on the DESINA color code. Cable types are easy to distinguish, thus greater safety and shorter assembly times.

TOTALTRAX

Pre-assembled cable carrier systems.

Ready-to-connect cable carrier complete systems with system guarantee.

Approvals

Our cables feature extensive approvals: here are a few examples of the possibilities for KABELSCHLEPP cables:

UL – Underwriters Labotories

Required approval for use in the US market.

CSA – Canadian Standarts Association

Required approval for use in the Canadian market.

CE – Conformité Européenne

The cable conforms with the EU directives for use and sales.



Technical plastics

Insulating materials

The insulating materials used in our cables can be subdivided into the following groups:

PVC – polyvinyl chloride

The material most often used in the cable industry. Plasticizers, stabilizers, masterbatches and other additives are added to form an individual mix, i.e. KS-PVC. Operating temperature: from – 5 °C to + 80 °C

PUR – polyurethane

Besides a significantly higher notch toughness, polyurethane is also more resistant to chemicals. Its very good flexibility at low temperature makes this material excellent for outdoor applications. Operating temperature: from – 30 °C to + 90 °C

PP – polypropylene

Because of its very high dielectric strength, polypropylene is a very good insulating material. In combination with PUR insulation it is thus possible to produce cables that are excellent for use in cable carriers. Operating temperature: from – 30 °C to + 90 °C

CAT cables

Unlike with normal data cables, with a Cat cable the transfer parameters are always specified, and therefore the damping and frequency of transfer are clearly defined.

Cat 5

Frequency of transfer: 100 MHz
Damping: 22 dB
NEXT (min. at 100 MHz): 32.3 dB

Cat 5E

Frequency of transfer: 100 MHz
Damping: 22 dB
NEXT (min. at 100 MHz): 35.3 dB

Cat 6

Frequency of transfer: 250 MHz
Damping: 19.8 dB
NEXT (min. at 100 MHz): 44.3 dB

Ethernet

Ethernet is a defined standard for data transfer in networks (LANs). At present the transfer rates are up to 100 Mbit/s.

Subject to change.

Overview as by part number

part no.	page	part no.	page	part no.	page	part no.	page	part no.	page	part no.	page
45200	25	45502	29	45636	43	45785	35	46412	61	47700	15
45201	25	45503	29	45637	43	45787	35	46415	61	47704	15
45202	25	45505	29	45638	43	45789	35	46505	61	47707	15
45203	25	45509	29	45639	43	45790	35	47202	27	47713	15
45205	25	45511	29	45641	43	45791	35	47222	27	47716	15
45209	25	45514	29	45642	43	45801	35	47223	27	47720	15
45211	25	45516	29	45643	43	45802	35	47225	27	47724	15
45212	25	45520	29	45646	43	45803	35	47242	27	47727	15
45214	25	45521	29	45647	43	45804	35	47245	27	48040	17
45221	25	45522	29	45649	43	45805	35	47252	27	48041	17
45222	25	45523	29	45650	43	45806	35	47262	27	48042	17
45223	25	45525	29	45651	43	45807	35	47272	27	48043	17
45225	25	45529	29	45652	43	45808	35	47273	27	48044	17
45229	25	45531	29	45654	43	45809	35	47282	27	48045	17
45231	25	45534	29	45661	45	45810	35	47292	27	48046	17
45234	25	45536	29	45662	45	45811	35	47351	13	48047	17
45242	25	45540	29	45664	45	45812	35	47352	13	48048	17
45243	25	45541	29	45665	43	45814	37	47354	13	48049	17
45245	25	45542	29	45668	45	45815	37	47356	13	48050	17
45252	25	45543	29	45669	45	45816	37	47360	13	48051	17
45253	25	45544	29	45670	49	45817	37	47364	13	48052	17
45254	25	45551	29	45672	49	45818	37	47367	13	48053	17
45262	25	45552	29	45676	53	45819	37	47372	13	48054	17
45263	25	45553	29	45678	53	45820	37	47373	13	48055	17
45272	25	45555	29	45679	45	45821	37	47374	13	48056	17
45282	25	45560	29	45680	57	45822	37	47376	13	48057	17
45292	25	45562	29	45683	57	45823	37	47380	13	48058	17
45302	25	45563	29	45684	55	45824	37	47384	13	48059	17
45312	25	45565	29	45685	57	45825	37	47387	13	48060	17
45355	41	45566	29	45686	51	45826	37	47392	13	48070	19
45356	41	45568	29	45690	47	45827	37	47393	13	48071	19
45357	41	45569	29	45691	57	45828	37	47394	13	48072	19
45358	41	45570	29	45693	55	45829	37	47396	13	48073	19
45359	41	45571	29	45694	57	46090	61	47400	13	48074	19
45360	41	45572	29	45695	57	46100	61	47404	13	48075	19
45361	41	45573	29	45696	59	46104	61	47407	13	48076	19
45372	41	45574	29	45697	59	46105	61	47412	13	48077	19
45373	41	45575	31	45698	59	46110	61	47413	13	48078	19
45374	41	45576	31	45699	59	46115	61	47414	13	48079	19
45376	41	45577	31	45701	23	46120	61	47416	13	48080	19
45377	41	45578	31	45702	23	46125	61	47420	13	48081	19
45380	41	45579	31	45703	23	46130	61	47424	13	48082	19
45382	41	45580	31	45705	23	46135	61	47427	13	48083	19
45391	21	45581	31	45709	23	46150	63	47433	13	48084	19
45392	21	45582	31	45712	23	46155	63	47580	33	48085	19
45393	21	45583	31	45715	23	46160	63	47581	33	48086	19
45396	21	45584	31	45721	23	46165	63	47582	33	48110	17
45400	21	45585	31	45722	23	46170	63	47583	33	48111	17
45401	21	45586	31	45723	23	46175	63	47584	33	48112	17
45402	21	45587	31	45725	23	46200	63	47585	33	48113	17
45412	21	45588	31	45729	23	46205	63	47586	33	48115	17
45421	21	45589	31	45732	23	46210	63	47587	33	48119	17
45422	21	45590	31	45735	23	46215	63	47588	33	48121	17
45423	21	45591	31	45741	23	46220	63	47589	33	48124	17
45425	21	45592	31	45742	23	46225	63	47590	33	48125	17
45429	21	45593	31	45743	23	46230	63	47651	15	48126	17
45431	21	45594	31	45745	23	46235	63	47652	15	48128	17
45434	21	45595	31	45749	23	46240	63	47653	15	48623	39
45436	21	45596	31	45752	23	46250	63	47654	15	48627	39
45441	21	45597	31	45755	23	46255	63	47656	15	48638	39
45442	21	45598	31	45760	35	46260	63	47660	15	48647	39
45443	21	45622	43	45761	35	46300	63	47664	15	48648	39
45445	21	45623	43	45762	35	46305	63	47667	15	48649	39
45446	21	45624	43	45763	35	46315	63	47672	15	48664	19
45449	21	45625	43	45765	35	46323	63	47673	15	48666	19
45451	21	45626	43	45769	35	46330	63	47674	15	48668	19
45454	21	45627	43	45772	35	46345	63	47676	15	48670	19
45477	21	45628	43	45775	35	46350	63	47680	15	48674	19
45480	21	45629	43	45777	35	46355	63	47684	15	48678	19
45497	21	45630	43	45778	35	46360	63	47687	15	48679	19
45498	21	45632	43	45780	35	46365	63	47692	15	48680	19
45500	29	45634	43	45781	35	46400	61	47693	15	48682	19
45501	29	45635	43	45783	35	46410	61	47696	15		

Subject to change.



KABELSCHLEPP

CABLE CARRIER SYSTEMS

Cable carriers made of steel and plastic
QUANTUM cable and hose carrier system
PROTUM cable and hose carrier system
ROBOTRAX cable and hose carrier system

CABLES FOR MOTION

Continuous bending hi-flex cables for cable carriers
TOTALTRAX complete turn-key carrier systems
Pre-assembled cables

GUIDEWAY PROTECTION SYSTEMS

Armored apron covers
Way wipers
Protective devices

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