

LIFE-LINE Safety Cables

Continuous Bending Hi-Flex Electrical Cables
to Guarantee Safe Cable & Hose Carrier Systems

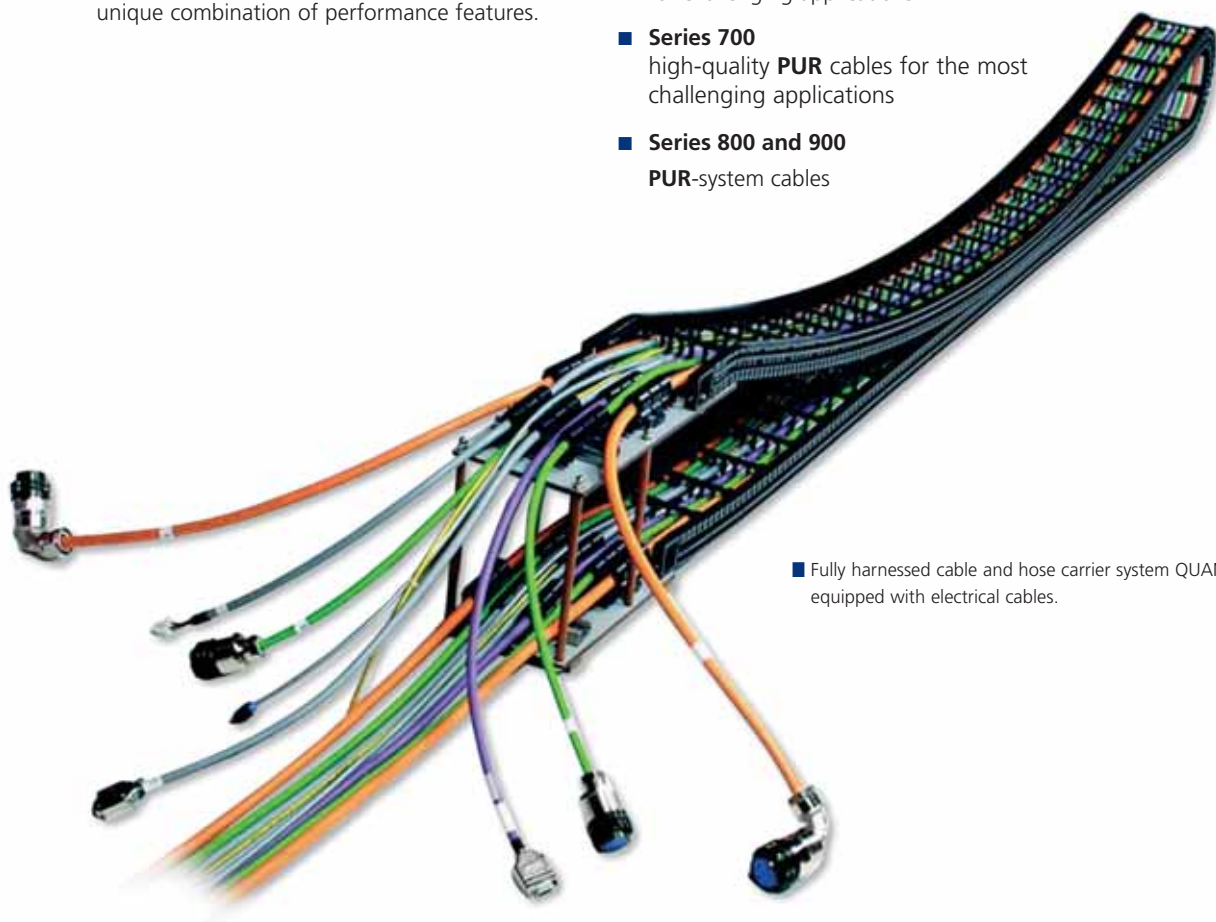


Cost-Effective – Safe – Reliable: LIFE-LINE Cable Carrier Systems Designed by the Experts for the Experts

The successful KABELSCHLEPP LIFE-LINE cable program was 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.

- **Series 200 Standard**
cost-effective **PVC** standard cables for a wide range of applications
- **Series 400 Standard^{PLUS}**
PVC standard cables **PLUS** for challenging applications
- **Series 700**
high-quality **PUR** cables for the most challenging applications
- **Series 800 and 900**
PUR-system cables



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



■ Harnessed LIFE-LINE electrical cables in MASTER H-Series cable carrier



■ Complete system with LIFE-LINE electrical cables, assembly plate and cable carrier MT 0650

Product Advantages

- Outer jacket made of special, continuous bending hi-flex and abrasion-resistant compounds
- Valley sealed filling extrusion technology (subject to cable type) allows for maximum stability and longest cycle life
- Optimized stranding (layer stranding, low-torsion in short pitches / bundle stranding / hybrid designs) to meet the individual requirements
- Extruded valley sealed filling of inner jacket (subject to cable type)
- Continuous bending hi-flex shielding with outstanding electrical properties for shielded cable types
- Use of high-quality and application-optimized center elements
- Small bend radii for compact cable carriers
- UL/CSA approvals (subject to cable type)
- DESINA jacket colors (subject to cable type)
- DESINA with **KCC** (subject to cable type)

Overview of Cable Types

- control cables
- power cables
- single-core cables
- data cables
- BUS cables
- coaxial cables
- fiber optic cables
- system cables according to SIEMENS specifications
- system cables according to INDRAMAT specifications

Cut-to-Order in our KABELSCHLEPP Cable Warehouse

We cut our KABELSCHLEPP LIFE-LINE electrical cables according to your individual order in our cable warehouse.

Our vast inventory range offers cables for almost every application.













■ KABELSCHLEPP cable warehouse

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TOTALTRAX Complete Cable & Hose Carrier Systems (Turn-Key Systems)

Fully Harnessed Cable Carrier Systems – Designed to Fit Your Individual Application

You know what product you need –
We supply it to you completely harnessed.

One supplier and contact person for the complete system

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



■ Ready-to-connect assembled carrier systems

Everything from a single source

- 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:

We also manufacture cables according to SIEMENS and INDRAMAT specifications

KABELSCHLEPP LIFE-LINE cables are harnessed according to SIEMENS-/ INDRAMAT specifications, suitable for SIEMENS or INDRAMAT drive controls which consist of signal and power cables and/or extension cables.

- any cable length available
- delivery minimum: 1 unit



Cut Costs With TOTALTRAX Complete Cable Carrier Systems

We help you . . .

- 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 request

. . . 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 (optional)

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



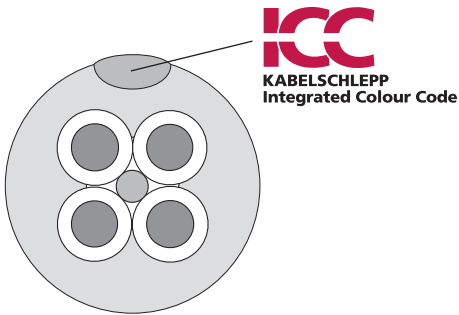
■ Assembly of the fully harnessed cable carrier system

Product Overview LIFE-LINE Safety Cables 200/400

LIFE-LINE Control 200 Standard LIFE-LINE Control 200 C Standard



- **ICC** Integrated Color Code System
- Continuous bending hi-flex and cost-effective standard cables for a wide range of applications
- Self-supporting and gliding applications with normal load for average bend radii as well as speeds
- Black outer jacket for high UV-resistance, also suitable for outdoor applications; co-extruded **ICC** Color Code Identification based on DESINA color code simplifies the correct cable installation into the carrier

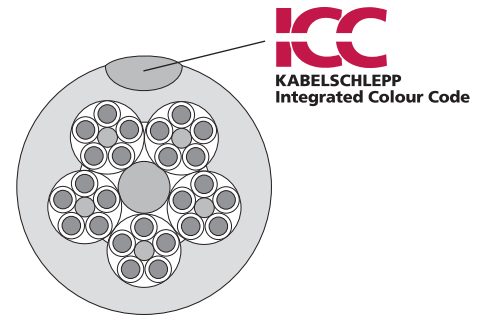


- Example of layered stranding with extruded valley sealed filling

LIFE-LINE Control 400 Standard**PLUS** LIFE-LINE Control 400 C Standard**PLUS**



- **ICC** Integrated Color Code System
- Standard cable **PLUS** for more challenging applications
- Self-supporting and gliding applications with small bend radii and high speeds
- Black outer jacket for high UV-resistance, also suitable for outdoor applications; co-extruded **ICC** Color Code Identification based on DESINA color code simplifies the correct cable installation into the carrier



- Example of bundled stranding with extruded valley sealed filling for more than 8 cores

KABELSCHLEPP Integrated Colour Code – ICC

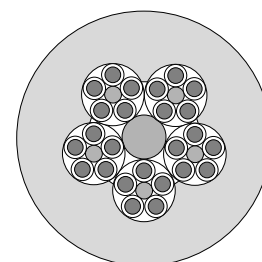
- Co-extruded **ICC** Color Identification based on DESINA color code. Power, control and BUS cables etc. have different color codes to be easily visually differentiated. Thus, shorter assembly or service times result in cost reduction.
- The **ICC** Color Code System also serves as helpful tool when installing the cables into the carrier.
- UV-resistant black outer jacket for outdoor and indoor applications



LIFE-LINE Power 400



- High-quality, robust PVC power cables for challenging applications
- Self-supporting and gliding applications for small bend radii and high speeds
- Particularly suitable for long travel lengths
- Suitable for indoor and outdoor applications
- High wear-resistant and robust outer jacket



- Example of bundled stranding with extruded valley sealed filling

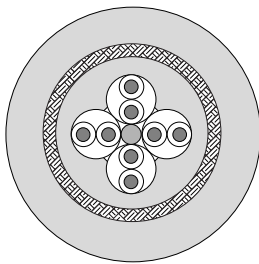
Product Overview LIFE-LINE Safety Cables 700/800/900

LIFE-LINE Data 700 C

LIFE-LINE Data 700, system-specific



- Super-flexible, continuous bending hi-flex and robust PUR data cables
- Pair-stranding cabling and complete shielding (fiber optic cables, unshielded) make the cable suitable for critical EMC environments
- For universal and extremely challenging applications in cable carriers
- For self-supporting and long gliding applications with small bend radii
- Particularly suitable for high speeds and accelerations



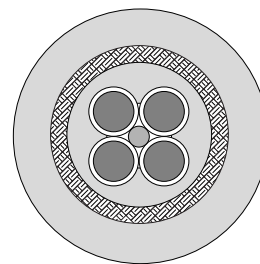
■ Example of pair-stranding shielded design

LIFE-LINE Power 700/Power ONE 700

LIFE-LINE Power 700 C/Power ONE 700 C



- High-quality, robust PUR power cables for even the most challenging applications
- Self-supporting and gliding applications for very small bend radii and very high speeds
- Particularly suitable for long travel lengths
- For indoor and outdoor applications
- High wear-resistant and nick-resistant outer jacket
- Individual strands with double-jacket
- Shielded design with continuous bending hi-flex braided shield



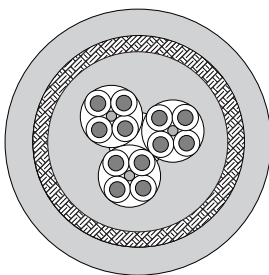
■ Example of layered stranding shielded design

LIFE-LINE Control 700

LIFE-LINE Control 700 C



- High-quality PUR control cables for even the most challenging applications
- Self-supporting and gliding applications with smallest bend radii and very high speeds; especially suitable for long travel lengths
- For indoor and outdoor applications
- Optimized bundle-stranding > 8 strands for highest availability
- Shielded design with continuous bending hi-flex braided shield



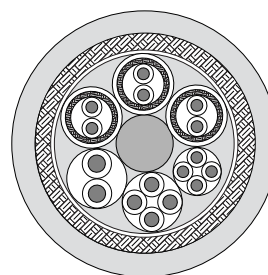
■ Example of bundled stranding shielded design

LIFE-LINE System S 800 C/System M 800 C

LIFE-LINE System S 900 C/System M 900 C



- High-quality PUR combi-cables for challenging system applications
- Self-supporting and gliding applications for small bend radii and high speeds
- Suitable for long travel lengths
- For indoor and outdoor applications
- Reliable transmission according to SIEMENS- or INDRAMAT specifications



■ Example of hybrid stranding shielded design

LIFE-LINE Control 200 Standard

unshielded continuous bending hi-flex PVC Control Cables



HIGHLIGHT 1

continuous bending hi-flex conductor strands

HIGHLIGHT 2

conductor cores stranded in short pitches

HIGHLIGHT 3

outer jacket material: extruded valley sealed filling, continuous hi-flex, UV-resistant, wear-resistant

HIGHLIGHT 4

co-extruded ICC Color Identification based on DESINA color code

- oil-resistant
- flame-retardant
- silicone-free
- no minimum order
- easy stripable
- UV-resistant
- CFC-free
- no cutting costs

Design

conductor:	finely stranded bare copper wires in an optimized hi-flex design
core insulation:	PVC
core colors:	black, protective conductor yellow/green
core stranding:	conductor cores layered
core identification:	numbers white, protective conductor yellow/green
outer jacket:	special, continuous bending hi-flex PVC compound
jacket color:	black with ICC Color Identification based on the DESINA color code

Technical Data

temperature range:	- 5 to + 80 °C (+ 23 to + 176 °F)
minimum bend radius*:	KR min $\geq 9 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 200 Standard type selection

type	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
UNSHIELDED						
LIFE-LINE Control 200 Standard	4 x 0.75 ²	18 / 4c	48 000	6.7	0.067	0.030
	7 x 0.75 ²	18 / 7c	48 001	9.0	0.115	0.054
	12 x 0.75 ²	18 / 12c	48 002	11.1	0.182	0.093
	18 x 0.75 ²	18 / 18c	48 003	12.8	0.255	0.141
	25 x 0.75 ²	18 / 25c	48 004	15.3	0.352	0.198
	4 x 1 ²	17 / 4c	48 005	7.2	0.082	0.041
	7 x 1 ²	17 / 7c	48 006	9.6	0.139	0.072
	12 x 1 ²	17 / 12c	48 007	11.9	0.222	0.124
	18 x 1 ²	17 / 18c	48 008	13.9	0.320	0.188
	25 x 1 ²	17 / 25c	48 009	16.6	0.442	0.263
	4 x 1.5 ²	16 / 4c	48 010	8.1	0.109	0.057
	5 x 1.5 ²	16 / 5c	48 011	8.9	0.130	0.071
	7 x 1.5 ²	16 / 7c	48 012	10.3	0.175	0.100
	12 x 1.5 ²	16 / 12c	48 013	13.0	0.284	0.173
	18 x 1.5 ²	16 / 18c	48 014	15.0	0.403	0.261
	25 x 1.5 ²	16 / 25c	48 015	17.9	0.560	0.370
4 x 2.5 ²	14 / 4c	48 016	9.5	0.165	0.099	

Additional cable types upon request.

LIFE-LINE Control 200 C Standard

shielded continuous bending hi-flex PVC Control Cables



HIGHLIGHT 1

continuous bending hi-flex conductor strands

HIGHLIGHT 2

conductor cores stranded in short pitches

HIGHLIGHT 3

extruded valley sealed filling inner jacket

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for small bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded valley sealed filling, continuous hi-flex, wear-resistant, UV-resistant

HIGHLIGHT 6

co-extruded ICC Color Identification based on DESINA color code

- oil-resistant
- flame-retardant
- silicone-free
- no minimum order
- easy stripable
- UV-resistant
- CFC-free
- no cutting costs

Design

conductor:	finely stranded bare copper wires in an optimized hi-flex design
core insulation:	PVC
core colors:	black, protective conductor yellow/green
core stranding:	conductor cores layered
core identification:	numbers white, protective conductor yellow/green
total shield:	linear coverage index 55 % / optical coverage index 80 %
outer jacket:	special, continuous bending hi-flex PVC compound
jacket color:	black with ICC Color Identification based on the DESINA color code

Technical Data

temperature range:	- 5 to + 80 °C (+ 23 to + 176 °F)
minimum bend radius*:	KR min $\geq 11 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 200 C Standard type selection

type	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
SHIELDED						
LIFE-LINE Control 200 C Standard	(4 x 0.75 ²)	(18 / 4c)	48 020	8.7	0.109	0.050
	(7 x 0.75 ²)	(18 / 7c)	48 021	10.9	0.169	0.081
	(12 x 0.75 ²)	(18 / 12c)	48 022	13.3	0.255	0.132
	(18 x 0.75 ²)	(18 / 18c)	48 023	15.0	0.340	0.186
	(25 x 0.75 ²)	(18 / 25c)	48 024	17.6	0.461	0.252
	(4 x 1 ²)	(17 / 4c)	48 025	9.2	0.127	0.062
	(7 x 1 ²)	(17 / 7c)	48 026	11.9	0.202	0.101
	(12 x 1 ²)	(17 / 12c)	48 027	14.1	0.302	0.166
	(18 x 1 ²)	(17 / 18c)	48 028	16.1	0.412	0.237
	(25 x 1 ²)	(17 / 25c)	48 029	19.1	0.573	0.344
	(4 x 1.5 ²)	(16 / 4c)	48 030	9.7	0.150	0.080
	(7 x 1.5 ²)	(16 / 7c)	48 031	12.6	0.245	0.131
	(12 x 1.5 ²)	(16 / 12c)	48 032	15.0	0.360	0.212
	(18 x 1.5 ²)	(16 / 18c)	48 033	17.2	0.505	0.315
	(25 x 1.5 ²)	(16 / 25c)	48 034	20.4	0.705	0.455

Additional cable types upon request.

LIFE-LINE Control 400 Standard ^{PLUS}

unshielded continuous bending hi-flex PVC Control Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

cores stranded in very short pitches

HIGHLIGHT 3

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 4

outer jacket material: extruded valley sealed filling, continuous hi-flex, ultra-high wear-resistance, UV-resistant

HIGHLIGHT 5

co-extruded ICC Color Identification based on DESINA color code

- oil-resistant
- flame-retardant
- silicone-free
- no minimum order
- easy stripable
- UV-resistant
- CFC-free
- no cutting costs

Design

conductor:	finely stranded bare copper wires in an optimized hi-flex design
strain relief:	tension-proof center element (≥ 5 cores)
core insulation:	PVC
core colors:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion around a tension-proof center element (> 8 cores) conductor cores layered in short pitches with minimal torsion around a tension-proof center element (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
outer jacket:	special, continuous bending hi-flex PVC compound
jacket color:	black with ICC Color Identification based on the DESINA color code

Technical Data

temperature range:	- 5 to + 80 °C (+ 23 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 400 Standard^{PLUS} type selection

type	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
UNSHIELDED						
LIFE-LINE Control 400 Standard^{PLUS}	4 x 0.75 ²	18 / 4c	48 040	6.7	0.068	0.031
	5 x 0.75 ²	18 / 5c	48 041	7.6	0.086	0.039
	7 x 0.75 ²	18 / 7c	48 042	8.9	0.117	0.055
	12 x 0.75 ²	18 / 12c	48 043	13.2	0.217	0.095
	18 x 0.75 ²	18 / 18c	48 044	16.1	0.314	0.143
	25 x 0.75 ²	18 / 25c	48 045	17.8	0.411	0.200
	3 x 1 ²	17 / 3c	48 046	6.7	0.068	0.031
	4 x 1 ²	17 / 4c	48 047	7.2	0.083	0.041
	5 x 1 ²	17 / 5c	48 048	8.2	0.105	0.052
	7 x 1 ²	17 / 7c	48 049	9.6	0.141	0.073
	12 x 1 ²	17 / 12c	48 050	14.2	0.259	0.126
	18 x 1 ²	17 / 18c	48 051	17.4	0.385	0.191
	25 x 1 ²	17 / 25c	48 052	19.4	0.519	0.266
	3 x 1.5 ²	16 / 3c	48 053	7.5	0.089	0.043
	4 x 1.5 ²	16 / 4c	48 054	8.1	0.107	0.057
	5 x 1.5 ²	16 / 5c	48 055	8.9	0.127	0.072
	7 x 1.5 ²	16 / 7c	48 056	11.1	0.191	0.102
	12 x 1.5 ²	16 / 12c	48 057	15.5	0.336	0.175
	18 x 1.5 ²	16 / 18c	48 058	18.5	0.463	0.265
	25 x 1.5 ²	16 / 25c	48 059	21.6	0.682	0.372
4 x 2.5 ²	14 / 4c	48 060	9.5	0.165	0.101	

Additional cable types upon request.

LIFE-LINE Control 400 C Standard ^{PLUS}

shielded continuous bending hi-flex PVC Control Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

cores stranded in very short pitches

HIGHLIGHT 3

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 4

extruded valley sealed filling inner jacket

HIGHLIGHT 5

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 6

outer jacket material: pressure-extruded valley sealed filling, continuous hi-flex, ultra-high wear-resistance, UV-resistant

HIGHLIGHT 7

co-extruded ICC Color Identification based on DESINA color code

- oil-resistant
- flame-retardant
- silicone-free
- no minimum order
- easy stripable
- UV-resistant
- CFC-free
- no cutting costs

Design

conductor:	finely stranded bare copper wires in an optimized hi-flex design
strain relief:	tension-proof center element (≥ 5 cores)
core insulation:	PVC
core colors:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion around a tension-proof center element (> 8 cores) conductor cores layered in short pitches with minimal torsion around a tension-proof center element (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
total shield:	linear coverage index 62 % / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex PVC compound
jacket color:	black with ICC Color Identification based on the DESINA color code

Technical Data

temperature range:	- 5 to + 80 °C (+ 23 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 400 C Standard^{PLUS} type selection

type	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
SHIELDED						
LIFE-LINE Control 400 C Standard^{PLUS}	(4 x 0.75 ²)	(18 / 4c)	48 070	8.7	0.112	0.053
	(7 x 0.75 ²)	(18 / 7c)	48 071	10.9	0.173	0.085
	(12 x 0.75 ²)	(18 / 12c)	48 072	15.3	0.303	0.147
	(18 x 0.75 ²)	(18 / 18c)	48 073	18.2	0.426	0.206
	(25 x 0.75 ²)	(18 / 25c)	48 074	20.0	0.640	0.270
	(4 x 1 ²)	(17 / 4c)	48 075	9.2	0.130	0.065
	(7 x 1 ²)	(17 / 7c)	48 076	11.9	0.210	0.105
	(12 x 1 ²)	(17 / 12c)	48 077	16.5	0.361	0.175
	(18 x 1 ²)	(17 / 18c)	48 078	19.5	0.502	0.259
	(25 x 1 ²)	(17 / 25c)	48 079	23.1	0.730	0.369
	(4 x 1.5 ²)	(16 / 4c)	48 080	9.7	0.153	0.083
	(5 x 1.5 ²)	(16 / 5c)	48 081	10.3	0.176	0.100
	(7 x 1.5 ²)	(16 / 7c)	48 082	13.2	0.268	0.145
	(12 x 1.5 ²)	(16 / 12c)	48 083	17.7	0.441	0.235
	(18 x 1.5 ²)	(16 / 18c)	48 084	21.0	0.608	0.338
	(25 x 1.5 ²)	(16 / 25c)	48 085	24.9	0.881	0.454

Additional cable types upon request.

LIFE-LINE Power 400

unshielded continuous bending hi-flex PVC Power Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 3

cores bundled in very short pitches

HIGHLIGHT 4

outer jacket material: pressure-extruded valley sealed filling, continuous hi-flex, extremely wear-resistant, UV-resistant

- no cutting costs
- Based on DESINA color code
- silicone-free
- UV-resistant
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	finely stranded bare copper wires in an optimized hi-flex design
core insulation:	TPM
strain relief:	type-optimized core elements
core color:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
outer jacket color:	DESINA black

Technical Data

temperature range:	$- 5$ to $+ 80$ °C ($+ 23$ to $+ 176$ °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Power 400

type selection

type	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
UNSHIELDED						
LIFE-LINE Power 400	3 x 1.5 ²	16 / 3c	45 201	7.0	0.079	0.043
	4 x 1.5 ²	16 / 4c	45 202	7.6	0.105	0.060
	5 x 1.5 ²	16 / 5c	45 203	8.8	0.125	0.072
	7 x 1.5 ²	16 / 7c	45 205	10.4	0.170	0.105
	12 x 1.5 ²	16 / 12c	45 209	15.4	0.358	0.180
	18 x 1.5 ²	16 / 18c	45 211	18.0	0.500	0.289
	25 x 1.5 ²	16 / 25c	45 214	21.7	0.680	0.405
	4 x 2.5 ²	14 / 4c	45 222	9.4	0.150	0.100
	5 x 2.5 ²	14 / 5c	45 223	10.2	0.180	0.120
	7 x 2.5 ²	14 / 7c	45 225	12.5	0.252	0.168
	12 x 2.5 ²	14 / 12c	45 229	18.3	0.539	0.300
	18 x 2.5 ²	14 / 18c	45 231	23.8	0.833	0.450
	25 x 2.5 ²	14 / 25c	45 234	26.4	1.040	0.625
	4 x 4 ²	12 / 4c	45 242	11.3	0.230	0.160
	5 x 4 ²	12 / 5c	45 243	12.3	0.269	0.192
	7 x 4 ²	12 / 7c	45 245	14.7	0.363	0.269
	4 x 6 ²	10 / 4c	45 252	13.4	0.338	0.231
	7 x 6 ²	10 / 7c	45 254	17.8	0.560	0.404
	4 x 10 ²	8 / 4c	45 262	16.6	0.536	0.384
	4 x 16 ²	6 / 4c	45 272	20.9	0.854	0.615
	4 x 25 ²	4 / 4c	45 282	25.8	1.310	0.960
	4 x 35 ²	2 / 4c	45 292	29.0	1.785	1.344

Additional cable types upon request.

LIFE-LINE Data 700 C

shielded continuous bending hi-flex PUR Data Cables



HIGHLIGHT 1

stranded in pairs
(Twisted Pair – TP)

HIGHLIGHT 2

pairs concentrically
bundle-stranded

HIGHLIGHT 3

cores, highly flexible,
stranded in very small
itches

HIGHLIGHT 4

valley-sealed filling
pressure-extruded
inner jacket
with brace protection

HIGHLIGHT 5

continuous bending
hi-flex braided copper
shield designed for
smallest bend radii

HIGHLIGHT 6

outer jacket material:
pressure-extruded,
UV-stable,
extremely
wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to DIN 47100
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	linear coverage index 62 % / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	purple

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Data 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Data 700 C	(2 x 2 x 0.25 ²)	(24 / 2c / 2p)	45 623^{A)}	6.5	0.062	0.027
	(3 x 2 x 0.25 ²)	(24 / 2c / 3p)	45 624	8.7	0.107	0.043
	(4 x 2 x 0.25 ²)	(24 / 2c / 4p)	45 625	8.9	0.105	0.043
	(5 x 2 x 0.25 ²)	(24 / 2c / 5p)	45 626^{**}	9.7	0.135	0.057
	(6 x 2 x 0.25 ²)	(24 / 2c / 6p)	45 627	10.0	0.130	0.061
	(8 x 2 x 0.25 ²)	(24 / 2c / 8p)	45 628	11.8	0.180	0.086
	(10 x 2 x 0.25 ²)	(24 / 2c / 10p)	45 629	13.0	0.224	0.095
	(12 x 2 x 0.25 ²)	(24 / 2c / 12p)	45 630	13.7	0.255	0.106
	(3 x 2 x 0.5 ²)	(20 / 2c / 3p)	45 636	9.7	0.130	0.058
	(4 x 2 x 0.5 ²)	(20 / 2c / 4p)	45 637	10.4	0.155	0.074
	(5 x 2 x 0.5 ²)	(20 / 2c / 5p)	45 638^{**}	11.4	0.183	0.088
	(6 x 2 x 0.5 ²)	(20 / 2c / 6p)	45 639^{**}	12.2	0.226	0.099
	(12 x 2 x 0.5 ²)	(20 / 2c / 12p)	45 642	15.7	0.367	0.191
	(4 x 2 x 0.75 ²)	(18 / 2c / 4p)	45 649	11.4	0.190	0.100
	(5 x 2 x 0.75 ²)	(18 / 2c / 5p)	45 650^{**}	12.4	0.183	0.118
	(6 x 2 x 0.75 ²)	(18 / 2c / 6p)	45 651	13.1	0.250	0.149
	(8 x 2 x 0.75 ²)	(18 / 2c / 8p)	45 652	15.8	0.345	0.203

** Delivery time upon request.

^{A)} not halogen-free

Additional cable types upon request.

LIFE-LINE Data 700 CD

double-shielded continuous bending hi-flex PUR Data Cables



HIGHLIGHT 1

tension-proof
center element

HIGHLIGHT 2

cores highly flexible
in very short
itches, concentrically
stranded in pairs

HIGHLIGHT 3

pair-shielded and
overall-shielded

HIGHLIGHT 4

valley-sealed filling
pressure-extruded
inner jacket

HIGHLIGHT 5

continuous bending
hi-flex braided copper
shield designed for
smallest bend radii

HIGHLIGHT 6

outer jacket material:
pressure-extruded;
UV-stable,
extremely
wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to DIN 47100
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	linear coverage index 62 % / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	purple

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL/CSA 300 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Data 700 CD

type selection

type	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
DOUBLE-SHIELDED						
LIFE-LINE Data 700 CD	(3 x (2 x 0.25 ²))	((24 / 2c) / 3p)	45 661	12.4	0.194	0.082
	(4 x (2 x 0.5 ²))	((20 / 2c) / 4p)	45 662	14.8	0.280	0.134

Additional cable types upon request.

LIFE-LINE CAN-BUS 700 C

shielded continuous bending hi-flex and robust PUR Bus Cables



HIGHLIGHT 1

cores high bending-resistant

HIGHLIGHT 2

concentrically stranded in pitches stranded into a star quad conductor

HIGHLIGHT 3

valley sealed filling pressure-extruded inner jacket with brace protection

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded, UV-stable, extremely wear-resistant

- halogen-free
- silicone-free
- high wear-resistant
- hydrolysis-resistant according to VDE 0282 T10
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free
- UV-stable

Design

- conductor:** extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
- core insulation:** KS-TPM
- core colors:** white, brown / green, yellow
- core stranding:** cores stranded with minimal torsion into a star-quad conductor
- total shield:** linear coverage index 62 % / optical coverage index 85 %
- jacket:** special, continuous bending hi-flex and nick-resistant KS PUR compound
- jacket color:** DESINA purple

Technical Data

- temperature range:** – 5 °C to + 70 °C (+ 23 to + 158 °F)
- minimum bend radius*:** KR min $\geq 7.5 \times \varnothing$
- isolation resistance:** ≥ 200 Mega $\Omega \times$ km
- voltage:** according to VDE 300/500 Volt; according to UL/CSA 300 Volt
- approvals:** UL, CSA, based on VDE

* for use in cable carrier applications (smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE CAN-BUS 700 C

type selection

type	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
SHIELDED						
LIFE-LINE CAN-BUS 700 C	(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45 670	9.2	0.056	0.037
	(2 x 2 x 0.5 ²)	(20 / 2c / 2p)	45 672	9.8	0.062	0.047

Additional cable types upon request.

LIFE-LINE DeviceNet 700 C

shielded continuous bending hi-flex DeviceNet PUR Cables



HIGHLIGHT 1

cores continuous bending resistant

HIGHLIGHT 2

cores highly flexible, stranded in very short pitches

HIGHLIGHT 3

metallized fleece

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded, UV-stable, extremely wear-resistant

- halogen-free
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	BUS-pair: white + blue power cores: red + black
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	Cu + metallized fleece
jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA purple

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL/CSA 300 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE DeviceNet 700 C

type selection

type	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
SHIELDED						
LIFE-LINE DeviceNet 700 C	((2 x 1 ²) + (2 x 0.75 ²))	((17 / 2c) + (18 / 2c))	45 674	14.4	0.210	0.110

Additional cable types upon request.

LIFE-LINE Interbus 700 C

shielded continuous bending hi-flex Interbus PUR Cables



HIGHLIGHT 1

cores highly flexible,
in very short pitches
concentrically
stranded in pairs

HIGHLIGHT 2

valley sealed filling
pressure-extruded
inner jacket

HIGHLIGHT 3

continuous
bending
hi-flex braided
copper shield
designed for
smallest bend radii

HIGHLIGHT 4

outer jacket material:
pressure-extruded,
UV-stable,
extremely
wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 45 676

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	white/brown, green/yellow, gray/pink
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	linear coverage index 62 % / optical coverage index 85 %
jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA purple

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 10 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Interbus 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Interbus 700 C	(3 x 2 x 0.25 ²)	(24 / 2c / 3p)	45 676	8.1	0.096	0.044
	(3 x 1 ² + 3 x 2 x 0.25 ²)	(17 / 2c + 24 / 2c / 3p)	45 678	11.4	0.132	0.077

Additional cable types upon request.

LIFE-LINE Profibus 700 C

shielded continuous bending hi-flex Profibus PUR Cables



HIGHLIGHT 1

cores highly flexible, in very short pitches concentrically stranded with very strong adhesive elements

HIGHLIGHT 2

pressure-extruded inner jacket material

HIGHLIGHT 3

special hi-strength AL foil

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for small bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded, UV-stable, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 45 690

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	red + green
core stranding:	cores stranded in pairs in short pitches with minimal torsion
inner jacket	TPE
total shield:	foil: special hi-strength AL foil screen mesh: linear coverage index 62 % / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA purple

Technical Data

temperature range:	– 40 to + 80 °C (– 40 to + 176 °F)
minimum bend radius*:	KR min $\geq 10 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Profibus 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Profibus SINELEC L2	(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45 689	11.5	0.140	0.048
LIFE-LINE Profibus 700 C	(1 x 2 x 0.5 ²)	(20 / 2c / 1p)	45 690^{A)}	9.9	0.094	0.039
	(3 x 0.75 ² + (1 x 2 x 0.5 ²))	(18 / 3c + (20 / 2c / 1p))	45 692	11.6	0.140	0.067

^{A)} Profibus Type A

Additional cable types upon request.

LIFE-LINE CAT5 700 C

shielded continuous bending hi-flex CAT5 PUR Cable



HIGHLIGHT 1

cores highly flexible, in very short pitches concentrically stranded in pairs

HIGHLIGHT 2

valley-sealed filling pressure-extruded inner jacket material

HIGHLIGHT 3

special hi-strength AL foil

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded, UV-stable, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	white + brown, green + yellow, gray + pink, blue + red
core stranding:	cores stranded in pairs in short pitches with minimal torsion
inner jacket	TPE
total shield:	foil: special hi-strength AL I foil screen mesh: linear coverage index 62 % / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA purple

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 10 Mega $\Omega \times \text{km}$
voltage:	according to VDE 300/500 Volt; according to UL 300 Volt
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE CAT5 700 C

type selection

type	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
SHIELDED						
LIFE-LINE CAT5 700 C	(4 x 2 x 0.25 ²)	(24 / 2c / 4p)	45 693	9.7	0.118	0.056

Additional cable types upon request.

LIFE-LINE Coax 700 C/CD

double-shielded continuous bending hi-flex PUR Data Cables



HIGHLIGHT 1

flexible single-wire coax elements

HIGHLIGHT 2

individual elements concentrically stranded in layers

HIGHLIGHT 3

pressure-extruded dielectric

HIGHLIGHT 4

continuous bending hi-flex braided copper shield

HIGHLIGHT 5

outer jacket material with winding, UV-stable, extremely wear-resistant

- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 45 694

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	black
core stranding:	cores stranded in short pitches with minimal torsion
core identification:	numbers white
inner jacket	YM2
total shield:	optical coverage index 90 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	black

Technical Data

temperature range:	– 40 to + 70 °C (– 40 to + 158 °F)
minimum bend radius*:	KR min $\geq 14 \times \varnothing$
voltage:	UL 30 Volt 60°
approvals:	UL, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Coax 700 C/CD

type selection

type	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
SHIELDED						
LIFE-LINE Koax 700 C	(1 x HF50)	(1HF50)	45 680 ^{A)}	5.2	0.060	0.020
LIFE-LINE Koax 700 CD	(3 x (1 x HF75))	(3 x (1HF75))	45 694 ^{B)}	11.4	0.110	0.031
	(5 x (1 x HF75))	(5 x (1HF75))	45 695 ^{B)}	12.4	0.120	0.049

A) $KR \geq 15 \times D$

B) without UL/CSA

Additional cable types upon request.

LIFE-LINE LWL 700

robust, metal-free multi-mode Glass Fiber Optic Cable



HIGHLIGHT 1

multi-flex
core strand

HIGHLIGHT 2

concentrically
stranded around
center element

HIGHLIGHT 3

encapsulation
resistant to lateral
pressure in the
support piece

HIGHLIGHT 4

pressure-extruded
special inner jacket
material

HIGHLIGHT 5

continuous
bending
hi-flex fiber
glass wrapping

HIGHLIGHT 6

suitable for direct
plug-in connection

HIGHLIGHT 7

hi-strength aramide
fiber strain relief

HIGHLIGHT 8

optimized
separation layer
between inner
and outer jacket

- halogen-free
- cold-resistant
- silicone-free
- Multimode 1300 nm
- absolutely
EMC safety
- FT 1 – flame-retardant
- CFC-free

Design

conductor:	glass fiber optic conductor
conductor insulation:	TPM
conductor colors:	colored
conductor stranding:	concentrically stranded around center element
conductor coding:	color-coded
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	black

Technical Data

temperature range:	– 30 to + 90 °C (– 22 to + 194 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
approvals:	ICE 60794 ICE 61300

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE LWL 700

type selection

type	Number of conductors x nominal-cross-section in mm ²	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m
LIFE-LINE LWL 700	6G 50/125	6G 50/125	45 696	13.4	0.130
	6G 62.5/125	6G 62.5/125	45 697	13.4	0.130
	12G 50/125	12G 50/125	45 698**	13.4	0.140
	12G 62.5/125	12G 62.5/125	45 699**	13.4	0.140

** Minimum order quantity upon request.

Additional cable types upon request.

LIFE-LINE Control 700

unshielded continuous bending hi-flex PUR Control Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

cores stranded in very short pitches

HIGHLIGHT 3

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 4

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-resistant, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-resistant
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
strain relief:	type-optimized center elements
core color:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores stranded in short pitches with minimal torsion (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	black

Technical Data

temperature range:	-30 to $+80$ °C (-22 to $+176$ °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 300/500 Volt; according to UL/CSA 300 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 700

type selection

type	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
UNSHIELDED						
LIFE-LINE Control 700	1 x 0.25 ²	24 / 1c	45 350	2.6	0.008	0.002
	1 x 0.34 ²	22 / 1c	45 370	3.9	0.018	0.003
	3 x 0.34 ²	22 / 3c	45 372^{A)}	4.4	0.025	0.010
	6 x 0.34 ²	22 / 6c	45 950^{A)}	5.1	0.048	0.020
	1 x 0.5 ²	20 / 1c	45 390	4.1	0.021	0.005
	2 x 0.5 ²	20 / 2c	45 391^{**}	5.8	0.040	0.010
	3 x 0.5 ²	20 / 3c	45 392^{**}	6.1	0.047	0.014
	7 x 0.5 ²	20 / 7c	45 396^{**}	8.1	0.083	0.034
	12 x 0.5 ²	20 / 12c	45 400^{**}	11.3	0.160	0.060
	1 x 0.75 ²	18 / 1c	45 419	4.3	0.024	0.007
	3 x 0.75 ²	18 / 3c	45 421	6.3	0.048	0.022
	4 x 0.75 ²	18 / 4c	45 422	6.7	0.064	0.031
	5 x 0.75 ²	18 / 5c	45 423	7.5	0.079	0.036
	7 x 0.75 ²	18 / 7c	45 425	8.7	0.103	0.051
	12 x 0.75 ²	18 / 12c	45 429	11.0	0.185	0.096
	18 x 0.75 ²	18 / 18c	45 431	14.6	0.286	0.135
	25 x 0.75 ²	18 / 25c	45 434	15.4	0.350	0.209
	1 x 1 ²	17 / 1c	45 439	4.5	0.027	0.010
	3 x 1 ²	17 / 3c	45 441	6.7	0.056	0.029
	4 x 1 ²	17 / 4c	45 442	7.1	0.080	0.044
	5 x 1 ²	17 / 5c	45 443	7.7	0.095	0.056
	7 x 1 ²	17 / 7c	45 445	8.3	0.109	0.068
	8 x 1 ²	17 / 8c	45 446	9.7	0.139	0.077
	12 x 1 ²	17 / 12c	45 449	11.8	0.230	0.125
	18 x 1 ²	17 / 18c	45 451	14.6	0.330	0.210
	25 x 1 ²	17 / 25c	45 454	16.7	0.445	0.302

** Delivery time upon request.

A) Core color code according to DIN 47 100

Additional cable types upon request.

LIFE-LINE Control 700 C

shielded continuous bending hi-flex PUR Control Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 3

cores stranded in very short pitches

HIGHLIGHT 4

valley-sealed filling extruded inner jacket material

HIGHLIGHT 5

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 6

outer jacket material: pressure extruded valley sealed filling, highly flexible, UV-resistant, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
strain relief:	type-optimized center elements
core color:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores stranded in short pitches with minimal torsion (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green linear
total shield:	coverage index 62% / optical coverage index 85 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	gray

Technical Data

temperature range:	- 30 to + 80 °C (- 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 300/500 Volt; according to UL/CSA 300 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Control 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Control 700 C	(3 x 0.5 ²)	(20 / 3c)	45 701	7.5	0.076	0.040
	(4 x 0.5 ²)	(20 / 4c)	45 702**	8.4	0.096	0.046
	(5 x 0.5 ²)	(20 / 5c)	45 703	8.5	0.100	0.051
	(7 x 0.5 ²)	(20 / 7c)	45 705	9.4	0.138	0.068
	(12 x 0.5 ²)	(20 / 12c)	45 709	12.0	0.205	0.109
	(18 x 0.5 ²)	(20 / 18c)	45 712	14.4	0.275	0.167
	(25 x 0.5 ²)	(20 / 25c)	45 715	16.3	0.375	0.212
	(3 x 0.75 ²)	(18 / 3c)	45 721	8.6	0.103	0.048
	(4 x 0.75 ²)	(18 / 4c)	45 722**	8.9	0.115	0.060
	(5 x 0.75 ²)	(18 / 5c)	45 723	9.2	0.125	0.068
	(7 x 0.75 ²)	(18 / 7c)	45 725	10.3	0.155	0.091
	(12 x 0.75 ²)	(18 / 12c)	45 729	13.0	0.255	0.162
	(18 x 0.75 ²)	(18 / 18c)	45 732	15.8	0.350	0.222
	(25 x 0.75 ²)	(18 / 25c)	45 735	18.7	0.515	0.293
	(3 x 1 ²)	(17 / 3c)	45 741	8.6	0.110	0.059
	(4 x 1 ²)	(17 / 4c)	45 742**	9.1	0.126	0.070
	(5 x 1 ²)	(17 / 5c)	45 743	9.6	0.145	0.086
	(7 x 1 ²)	(17 / 7c)	45 745	11.2	0.195	0.112
	(12 x 1 ²)	(17 / 12c)	45 749	13.8	0.305	0.195
	(18 x 1 ²)	(17 / 18c)	45 752	17.8	0.475	0.288
	(25 x 1 ²)	(17 / 25c)	45 755	19.5	0.610	0.389

** Delivery time upon request.

Additional cable types upon request.

LIFE-LINE Power 700

unshielded continuous bending hi-flex PUR Power Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 3

cores stranded in very short pitches

HIGHLIGHT 4

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-resistant, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-resistant
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
strain relief:	type-optimized center elements
Core color:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores stranded in short pitches with minimal torsion (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA black

Technical Data

temperature range:	-30 to $+80$ °C (-22 to $+176$ °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Power 700

type selection

type	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
UNSHIELDED						
LIFE-LINE Power 700	3 x 1.5 ²	16 / 3c	45 501	7.7	0.087	0.043
	4 x 1.5 ²	16 / 4c	45 502	8.4	0.110	0.058
	5 x 1.5 ²	16 / 5c	45 503	9.1	0.130	0.072
	7 x 1.5 ²	16 / 7c	45 505	10.7	0.175	0.105
	12 x 1.5 ²	16 / 12c	45 509	14.2	0.320	0.195
	18 x 1.5 ²	16 / 18c	45 511	18.0	0.450	0.270
	25 x 1.5 ²	16 / 25c	45 514	21.2	0.650	0.411
	3 x 2.5 ²	14 / 3c	45 521**	9.0	0.128	0.075
	4 x 2.5 ²	14 / 4c	45 522	9.7	0.155	0.100
	5 x 2.5 ²	14 / 5c	45 523	10.6	0.186	0.120
	7 x 2.5 ²	14 / 7c	45 525	12.6	0.260	0.175
	12 x 2.5 ²	14 / 12c	45 529	17.4	0.490	0.300
	18 x 2.5 ²	14 / 18c	45 531	23.0	0.745	0.450
	25 x 2.5 ²	14 / 25c	45 534	26.2	1.000	0.625
	3 x 4 ²	12 / 3c	45 541**	10.3	0.180	0.120
	4 x 4 ²	12 / 4c	45 542	11.2	0.222	0.154
	5 x 4 ²	12 / 5c	45 544**	12.3	0.265	0.200
	7 x 4 ²	12 / 7c	45 543	14.6	0.360	0.269
	3 x 6 ²	10 / 3c	45 551**	12.4	0.270	0.173
	4 x 6 ²	10 / 4c	45 552	13.4	0.330	0.230
	5 x 6 ²	10 / 5c	45 553	14.8	0.400	0.300
	7 x 6 ²	10 / 7c	45 555	17.8	0.555	0.404
	4 x 10 ²	8 / 4c	45 562	16.4	0.525	0.384
	5 x 10 ²	8 / 5c	45 563	18.1	0.640	0.480
	4 x 16 ²	6 / 4c	45 565	21.2	0.825	0.640
	5 x 16 ²	6 / 5c	45 566	23.2	1.050	0.768
	4 x 25 ²	4 / 4c	45 568	25.3	1.250	1.000
	4 x 35 ²	2 / 4c	45 571	29.4	1.750	1.344
	4 x 50 ²	1 / 4c	45 572**	33.6	2.280	1.920

** Delivery time upon request.

Additional cable types upon request.

LIFE-LINE Power ONE 700

unshielded continuous bending hi-flex PUR Single-Core Cables



HIGHLIGHT 1

special continuous bending hi-flex conductor

HIGHLIGHT 2

strand bundles twisted in short pitches

HIGHLIGHT 3

core insulation designed as high pressure extruded valley sealed filling inner jacket

HIGHLIGHT 4

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-resistant, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-resistant
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
core stranding:	single core
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA black

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega Ω x km
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Power ONE 700

type selection

type	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
UNSHIELDED						
LIFE-LINE Power ONE 700	1 x 1.5 ²	16 / 1c	45 580	5.2	0.036	0.014
	1 x 2.5 ²	14 / 1c	45 581	5.7	0.048	0.024
	1 x 4 ²	12 / 1c	45 582	6.3	0.065	0.038
	1 x 6 ²	10 / 1c	45 583	7.1	0.085	0.060
	1 x 10 ²	8 / 1c	45 584	8.5	0.137	0.096
	1 x 16 ²	6 / 1c	45 585	10.0	0.195	0.154
	1 x 25 ²	4 / 1c	45 586	11.8	0.285	0.240
	1 x 35 ²	2 / 1c	45 587	13.0	0.390	0.350
	1 x 50 ²	2 / 1c	45 588	14.6	0.520	0.500
	1 x 70 ²	2 / 0 / 1c	45 589	17.2	0.810	0.672
	1 x 95 ²	3 / 0 / 1c	45 590	19.4	0.950	0.912
	1 x 120 ²	4 / 0 / 1c	45 591	23.6	1.315	1.152
	1 x 150 ²	250 MCM / 1c	45 592	24.9	1.590	1.440
	1 x 185 ²	350 MCM / 1c	45 593	26.6	1.997	1.776
	1 x 240 ²	400 MCM / 1c	45 594	31.9	2.530	2.304

Additional cable types upon request.

LIFE-LINE Power 700 C

shielded continuous bending hi-flex PUR Power Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

bundled stranding around a tension-proof center element (> 8 cores)

HIGHLIGHT 3

cores stranded in very short pitches

HIGHLIGHT 4

valley-sealed filling extruded inner jacket material

HIGHLIGHT 5

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 6

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-resistant, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
strain relief:	type-optimized center elements
core color:	black, protective conductor yellow/green
core stranding:	conductor cores bundled in short pitches with minimal torsion (> 8 cores) conductor cores layered in short pitches with minimal torsion (≤ 8 cores)
core identification:	numbers white, protective conductor yellow/green
total shield:	linear coverage index 62% / optical coverage index 85%
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA orange

Technical Data

temperature range:	- 30 to + 80 °C (- 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 600 Volt/1kV according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Power 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Power 700 C	(3 x 1.5 ²)	(16 / 3c)	45 761	9.8	0.140	0.075
	(4 x 1.5 ²)	(16 / 4c)	45 762	10.4	0.165	0.095
	(5 x 1.5 ²)	(16 / 5c)	45 763	11.2	0.191	0.106
	(7 x 1.5 ²)	(16 / 7c)	45 765	12.8	0.243	0.142
	(12 x 1.5 ²)	(16 / 12c)	45 769	16.9	0.430	0.257
	(18 x 1.5 ²)	(16 / 18c)	45 772	22.1	0.665	0.385
	(25 x 1.5 ²)	(16 / 25c)	45 775	25.4	0.900	0.540
	(4 x 2.5 ²)	(14 / 4c)	45 781	11.7	0.220	0.144
	(5 x 2.5 ²)	(14 / 5c)	45 783	12.9	0.265	0.168
	(7 x 2.5 ²)	(14 / 7c)	45 785	15.2	0.368	0.247
	(12 x 2.5 ²)	(14 / 12c)	45 787**	23.1	0.795	0.413
	(4 x 4 ²)	(12 / 4c)	45 801	13.3	0.305	0.221
	(4 x 6 ²)	(10 / 4c)	45 802	16.0	0.435	0.302
	(4 x 10 ²)	(8 / 4c)	45 803	19.5	0.700	0.490
	(4 x 16 ²)	(6 / 4c)	45 804	24.8	1.060	0.771
	(4 x 25 ²)	(4 / 4c)	45 805	28.8	1.520	1.145
	(4 x 35 ²)	(2 / 4c)	45 806	32.7	2.120	1.555
	(4 x 50 ²)	(1 / 4c)	45 807	36.4	2.785	2.206

** Delivery time upon request.

Additional cable types upon request.

LIFE-LINE Power ONE 700 C

shielded continuous bending hi-flex PUR Single-Core Cables



HIGHLIGHT 1

special continuous bending hi-flex conductor

HIGHLIGHT 2

strand bundles twisted in short pitches

HIGHLIGHT 3

core insulation designed as high pressure-extruded valley sealed filling inner jacket

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-stable, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	KS-TPM
core stranding:	single core
total shield:	linear coverage index 62% / optical coverage index 85%
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA orange

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times \text{km}$
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE Power ONE 700 C

type selection

type	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
SHIELDED						
LIFE-LINE Power ONE 700 C	(1 x 2,5 ²)	(14 / 1c)	45 815	6,5	0,070	0,041
	(1 x 4 ²)	(12 / 1c)	45 816	7,1	0,089	0,059
	(1 x 6 ²)	(10 / 1c)	45 817	8,1	0,119	0,085
	(1 x 10 ²)	(8 / 1c)	45 818	9,3	0,168	0,128
	(1 x 16 ²)	(6 / 1c)	45 819	10,6	0,238	0,191
	(1 x 25 ²)	(4 / 1c)	45 820	12,4	0,343	0,289
	(1 x 35 ²)	(2 / 1c)	45 821	13,7	0,430	0,393
	(1 x 50 ²)	(1 / 4c)	45 822	15,5	0,575	0,560
	(1 x 70 ²)	(2 / 0 / 1c)	45 823	18,5	0,900	0,788
	(1 x 95 ²)	(3 / 0 / 1c)	45 824	19,8	1,065	1,019
	(1 x 120 ²)	(4 / 0 / 1c)	45 825	24,0	1,428	1,272
	(1 x 150 ²)	(300 MCM / 1c)	45 826	26,0	1,750	1,578
	(1 x 185 ²)	(350 MCM / 1c)	45 827**	27,8	2,130	1,956
	(1 x 240 ²)	(500 MCM / 1c)	45 828	32,2	2,780	2,506

** Delivery time upon request.

Additional cable types upon request.

LIFE-LINE System S 800 C

shielded continuous bending hi-flex PUR Signal Cables



HIGHLIGHT 1

tension-proof center element

HIGHLIGHT 2

hybrid-stranded around a tension-proof center element

HIGHLIGHT 3

cores bundled in very short pitches

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-stable, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 46 120

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to specifications
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	optical coverage index $\geq 80\%$
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA green

Technical Data

temperature range:	- 30 to + 80 °C (- 22 to + 176 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 200 Mega $\Omega \times$ km
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE System S 800 C

type selection

type	type SIEMENS	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
SHIELDED							
LIFE-LINE System S 800 C	6FX8008 1BD11	$(8 \times 2 \times 0.18^2)$	$(25 / 2c / 8p)$	46 100^{B)}	7.8	0.085	0.051
	6FX8008 1BD21	$(4 \times 2 \times 0.38^2 + 4 \times 0.5^2)$	$(22 / 2c / 4p + 20 / 4c)$	46 105^{B)}	8.9	0.111	0.072
	6FX8008 1BD31	$(3 \times (2 \times 0.14^2) + 2 \times 0.5^2)$	$((25 / 2c) / 3p + 20 / 2c)$	46 110^{B)}	9.0	0.082	0.065
	6FX8008 1BD41	$(3 \times (2 \times 0.14^2) + 4 \times 0.14^2 + 2 \times 0.5^2)$	$((25 / 2c) / 3p + 25 / 4c + 20 / 2c)$	46 115^{B)}	8.9	0.059	0.061
	6FX8008 1BD51	$(3 \times (2 \times 0.14^2) + 2 \times 0.5^2 + 4 \times 0.14^2 + 4 \times 0.23^2)$	$((25 / 2c) / 3p + 20 / 2c + 25 / 4c + 23 / 4c)$	46 120^{A)}	10.2	0.073	0.074
	6FX8008 1BD61	$(4 \times 2 \times 0.18^2)$	$(25 / 2c / 4p)$	46 125^{B)}	6.4	0.057	0.032
	6FX8008 1BD71	$(2 \times 2 \times 0.18^2)$	$(25 / 2c / 2p)$	46 130^{B)}	5.0	0.042	0.023
	6FX8008 1BD81	(12×0.23^2)	$(24 / 12c)$	46 135^{B)}	6.9	0.067	0.046

A) = KR_{min} 7.5 x Ø **B)** = KR_{min} 12 x Ø, UL/CSA upon request

Additional cable types upon request.

LIFE-LINE System M 800 C

shielded continuous bending hi-flex PUR Motor Drive Cables



HIGHLIGHT 1

tension-proof center element (≥ 5 cores)

HIGHLIGHT 2

bundle-stranded around tension-proof center element (> 8 cores)

HIGHLIGHT 3

cores bundled in very short pitches

HIGHLIGHT 4

continuous bending hi-flex braided copper shield designed for smallest bend radii

HIGHLIGHT 5

outer jacket material: pressure-extruded valley sealed filling, highly flexible, UV-stable, extremely wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 46 150

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to specifications
core stranding:	cores stranded in short pitches with minimal torsion
total shield:	optical coverage index ≥ 80 %
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA orange

Technical Data

temperature range:	– 30 to + 80 °C (– 22 to + 176 °F)
minimum bend radius*:	KR min ≥ 7.5 x Ø
isolation resistance:	≥ 200 Mega Ω x km
voltage:	according to VDE 600 Volt/1kV; according to UL/CSA 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE System M 800 C

type selection

type	type SIEMENS	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
SHIELDED							
LIFE-LINE System M 800 C	6FX8008 1BA11	$(4 \times 1.5^2 + (2 \times 1.5^2))$	$(16 / 4c + (16 / 2c))$	46 150^{A)}	11.2	0.220	0.143
	6FX8008 1BA21	$(4 \times 2.5^2 + (2 \times 1.5^2))$	$(14 / 4c + (16 / 2c))$	46 155^{B)}	13.8	0.295	0.185
	6FX8008 1BA31	$(4 \times 4^2 + (2 \times 1.5^2))$	$(12 / 4c + (16 / 2c))$	46 160^{B)}	14.9	0.379	0.261
	6FX8008 1BA41	$(4 \times 6^2 + (2 \times 1.5^2))$	$(10 / 4c + (16 / 2c))$	46 165^{B)}	15.9	0.456	0.346
	6FX8008 1BA51	$(4 \times 10^2 + (2 \times 1.5^2))$	$(8 / 4c + (16 / 2c))$	46 170^{B)}	18.0	0.651	0.515
	6FX8008 1BA61	$(4 \times 16^2 + (2 \times 1.5^2))$	$(6 / 4c + (16 / 2c))$	46 175^{B)}	21.8	1.016	0.785
	6FX8008 1BB11	(4×1.5^2)	$(16 / 4c)$	46 200^{C)}	9.9	0.265	0.084
	6FX8008 1BB21	(4×2.5^2)	$(14 / 4c)$	46 205^{C)}	11.6	0.211	0.127
	6FX8008 1BB31	(4×4^2)	$(12 / 4c)$	46 210^{C)}	12.7	0.304	0.206
	6FX8008 1BB41	(4×6^2)	$(10 / 4c)$	46 215^{C)}	14.2	0.372	0.270
	6FX8008 1BB51	(4×10^2)	$(8 / 4c)$	46 220^{C)}	16.5	0.570	0.458
	6FX8008 1BB61	(4×16^2)	$(6 / 4c)$	46 225^{C)}	19.8	0.858	0.723
	6FX8008 1BA25	$(4 \times 25^2 + (2 \times 1.5^2))$	$(4 / 4c + (16 / 2c))$	46 250^{B)}	26.7	1.561	1.167
	6FX8008 1BA35	$(4 \times 35^2 + (2 \times 1.5^2))$	$(2 / 4c + (16 / 2c))$	46 255^{B)}	30.8	2.118	1.585
	6FX8008 1BA50	$(4 \times 50^2 + (2 \times 1.5^2))$	$(1 / 4c + (16 / 2c))$	46 260^{B)}	34.7	2.632	2.184

^{A)} = $K_{Rmin} 7.5 \times \varnothing$

^{B)} = $K_{Rmin} 12 \times \varnothing$, UL/CSA upon request

^{C)} optional: Series LIFE-LINE Power 700 C

Additional cable types upon request.

LIFE-LINE System S 900 C

shielded continuous bending hi-flex PUR Signal Cables



HIGHLIGHT 1

tension-proof
center element
(≥ 5 cores)

HIGHLIGHT 2

bundle-stranded
around tension-proof
center element
(> 8 cores)

HIGHLIGHT 3

cores stranded
in very short
pitches

HIGHLIGHT 4

continuous
bending hi-flex
braided copper shield
designed for
smallest bend radii

HIGHLIGHT 5

outer jacket material:
pressure-extruded
valley sealed filling,
highly flexible,
UV-stable,
extremely
wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 46 400

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to specifications
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	linear coverage index 62% / optical coverage index 85%
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	orange

Technical Data

temperature range:	– 30 to + 90 °C (– 22 to + 194 °F)
minimum bend radius*:	KR min ≥ 7.5 x Ø
isolation resistance:	≥ 30 Mega Ω x km
voltage:	according to VDE 600 Volt/1kV; according to UL 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE System S 900 C

type selection

type	type INDRAMAT	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
SHIELDED							
LIFE-LINE System S 900 C	INDRAMAT INK 448	$(4 \times 2 \times 0.25^2 + 2 \times 0.5^2)$	$(24 / 2c / 4p + 20 / 2c)$	46 400^{A)}	8.3	0.094	0.055
	INDRAMAT INK 271	$(34 \times 0.25^2 + 2 \times 0.5^2)$	$(24 / 34c + 20 / 2c)$	46 405^{B)}	11.8	0.216	0.139
	INDRAMAT INK 209	$(4 \times 2 \times 0.25^2 + 2 \times 1^2)$	$(24 / 2c / 4p + 17 / 2c)$	46 410^{B)}	8.2	0.102	0.064
	INDRAMAT INK 0532	$(4 \times 2 \times 0.14^2 + 4 \times 1^2 + (4 \times 0.14^2))$	$(25 / 2c / 4p + 20 / 4c + (25 / 4c))$	46 415^{B)}	9.4	0.099	0.090
	INDRAMAT INK 208	(9×0.5^2)	$(20 / 9c)$	46 450^{C)}	8.8	0.106	0.080

^{A)} = KR_{min} 7.5 x Ø

^{B)} = KR_{min} 12 x Ø, UL/CSA upon request

^{C)} PUR not flame-retardant

Additional cable types upon request.

LIFE-LINE System M 900 C

shielded continuous bending hi-flex PUR Motor Drive Cables



HIGHLIGHT 1

tension-proof
center element
(≥ 5 cores)

HIGHLIGHT 2

bundle-stranded
around tension-proof
center element
(> 8 cores)

HIGHLIGHT 3

cores stranded
in very short
pitches

HIGHLIGHT 4

continuous
bending hi-flex
braided copper shield
designed for
smallest bend radii

HIGHLIGHT 5

outer jacket material:
pressure-extruded
valley sealed filling,
highly flexible,
UV-stable,
extremely
wear-resistant

- halogen-free
- cold-resistant
- silicone-free
- UV-stable
- oil-resistant according to DIN VDE 0250 T 818
- FT 1 – flame-retardant
- easy stripable
- CFC-free

Design part number 46 310

conductor:	extremely fine stranded conductors of bare copper wires in an optimized hi-flex design
core insulation:	TPM
core colors:	according to specifications
core stranding:	cores bundled in pairs in short pitches with minimal torsion
total shield:	linear coverage index 62% / optical coverage index 85%
outer jacket:	special, continuous bending hi-flex and nick-resistant KS PUR compound
jacket color:	DESINA orange

Technical Data

temperature range:	- 30 to + 90 °C (- 22 to + 194 °F)
minimum bend radius*:	KR min $\geq 7.5 \times \varnothing$
isolation resistance:	≥ 30 Mega $\Omega \times$ km
voltage:	according to VDE 600 Volt/1kV; according to UL 600 Volt
approvals:	UL, CSA, based on VDE

* for use in cable carrier applications
(smaller bend radii are suitable in a wide range of applications – please contact us)



LIFE-LINE System M 900 C

type selection





type	type INDRAMAT	type KS / construction	conductor cross section AWG (approximate values)	part number	max OD in mm	weight kg/m	Cu index kg/m
SHIELDED							
LIFE-LINE System M 900 C	INDRAMAT INK 653	$(4 \times 1^2 + 2 \times (2 \times 0.75^2))$	$(18 / 4c + (18 / 2c) / 2p)$	46 300^{A)}	11.5	0.230	0.140
	INDRAMAT INK 650	$(4 \times 1.5^2 + 2 \times (2 \times 0.75^2))$	$(16 / 4c + (18 / 2c) / 2p)$	46 305^{A)}	12.2	0.255	0.162
	INDRAMAT INK 602	$(4 \times 2.5^2 + 2 \times (2 \times 0.75^2))$	$(14 / 4c + (18 / 2c) / 2p)$	46 310^{A)}	13.8	0.319	0.215
		$(4 \times 2.5^2 + 2 \times (2 \times 1^2))$	$(14 / 4c + (17 / 2c) / 2p)$	46 315^{A)}	14.4	0.330	0.230
	INDRAMAT INK 603	$(4 \times 4^2 + 2 \times (2 \times 1^2))$	$(12 / 4c + (17 / 2c) / 2p)$	46 320^{B)}	15.6	0.412	0.288
		$(4 \times 4^2 + 2 \times (2 \times 1.5^2))$	$(12 / 4c + (16 / 2c) / 2p)$	46 325^{A)}	16.3	0.430	0.300
	INDRAMAT INK 604	$(4 \times 6^2 + 2 \times (2 \times 1^2))$	$(10 / 4c + (17 / 2c) / 2p)$	46 330^{B)}	17.3	0.512	0.368
		$(4 \times 6^2 + 2 \times (2 \times 1.5^2))$	$(10 / 4c + (16 / 2c) / 2p)$	46 335^{A)}	17.9	0.535	0.390
	INDRAMAT INK 605	$(4 \times 10^2 + 2 \times (2 \times 1^2))$	$(8 / 4c + (17 / 2c) / 2p)$	46 340^{B)}	19.3	0.730	0.569
		$(4 \times 10^2 + 2 \times (2 \times 1.5^2))$	$(8 / 4c + (16 / 2c) / 2p)$	46 345^{B)}	19.8	0.790	0.595
	INDRAMAT INK 606	$(4 \times 16^2 + 2 \times (2 \times 1.5^2))$	$(6 / 4c + (16 / 2c) / 2p)$	46 350^{B)}	23.6	1.064	0.823
	INDRAMAT INK 607	$(4 \times 25^2 + 2 \times (2 \times 1.5^2))$	$(4 / 4c + (16 / 2c) / 2p)$	46 355^{B)}	29.4	1.714	1.192
	INDRAMAT INK 667	$(4 \times 35^2 + 2 \times (2 \times 1.5^2))$	$(2 / 4c + (16 / 2c) / 2p)$	46 360^{B)}	33.0	2.176	1.588

^{A)} = KR_{min} 7.5 x Ø ^{B)} = KR_{min} 12 x Ø, UL/CSA upon request

Additional cable types upon request.

Application Parameters/Electrical Load Capacity

Application Parameters LIFE-LINE Safety Cables

Application Parameters*	Control Standard 200/200 C	Control Standard ^{PLUS} 400/400 C	Power 400	Series 700/700 C	Series 800 C	Series 900 C
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	subject to cable type
Speed v, self-supporting	up to 2 m/s	up to 10 m/s	up to 5 m/s	up to 20 m/s	subject to cable type	subject to cable type
Speed v, gliding	up to 1 m/s	up to 5 m/s	up to 3 m/s	up to 5 m/s	subject to cable type	subject to cable type
Travel length** recommended application areas	self-supporting, short to medium travel lengths – gliding with restrictions	self-supporting and gliding, medium to longer travel lengths	self-supporting and gliding, longer travel lengths	self-supporting and gliding, long travel lengths	subject to cable type	subject to cable type
DESINA	KABELSCHLEPP 	KABELSCHLEPP 	+	subject to cable type	subject to cable type	subject to cable type
easy stripable	+	+	+	+	+	+
cold-resistant	•	•	•	•••	••	••
Minimum bend radius, unshielded	KR min ≥ 9 x Ø	KR min ≥ 7.5 x Ø	KR min ≥ 7.5 x Ø	KR min ≥ 7.5 x Ø	–	–
Minimum bend radius, shielded	KR min ≥ 11 x Ø	KR min ≥ 7.5 x Ø	KR min ≥ 7.5 x Ø	KR min ≥ 7.5 x Ø**	subject to cable type	subject to cable type
UL-Approval 	+	+	+	+	+	+
combined UL/CSA-Approval 	–	–	–	+	subject to cable type	subject to cable type
Operating temperature range, according to UL	-5 to + 80 °C	-5 to + 80 °C	-5 to + 80 °C	- 30 to + 80 °C	subject to cable type	subject to cable type
Operating temperature range, according to CSA	–	–	–	- 30 to + 90 °C	subject to cable type	subject to cable type
UV-resistance	+	+	+	• jacket colored ••• jacket black	• jacket colored ••• jacket black	• jacket colored ••• jacket black
INDRAMAT specification	–	–	–	–	–	+
SIEMENS specification	–	–	–	–	+	–
CFC-free	+	+	+	+	+	+
flame-retardant	+	+	+	+	+	+
halogen-free	–	–	–	+	subject to cable type	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

Electrical Load Capacity

Cross section mm ²	Electrical Load Capacity A	Cross section mm ²	Electrical Load Capacity A
0.75	12	35	135
1	15	50	168
1.5	18	70	207
2.5	26	95	250
4	34	120	292
6	44	150	335
10	61	185	382
16	82	240	453
25	108	300	523

Data refer to an ambient temperature of 30 °C (in air) with simultaneous load capacity of up to three cores and installation on or at surfaces. For other temperatures, conductor bundles and different environments and load capacity conditions, the corresponding conversion factors must be applied (see also DIN VDE 0298 part 4, DIN VDE 0100 part 430 and DIN VDE 0113 part 1).

The numbers listed are approximate values and taken in simplified form from DIN VDE 0298 part 4, DIN VDE 0100 part 430 and DIN VDE 0113 part 1.

All data are general guidelines and are not for a specific application. We recommend referring to the DIN VDE-stipulations when designing your individual cable carrier system.

Color Codes, Copper Surcharge, AWG Table

DIN 47100 Color Code

1 white	11 gray-pink	21 white-blue	31 green-blue	41 gray-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 gray	15 white-yellow	25 white-black	35 green-black	
6 pink	16 yellow-brown	26 brown-black	36 yellow-black	
7 blue	17 white-gray	27 gray-green	37 gray-blue	
8 red	18 gray-brown	28 yellow-gray	38 pink-blue	
9 black	19 white-pink	29 pink-green	39 gray-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.

Calculation of the Copper Surcharge

The copper surcharge is calculated from the difference between the calculated price (copper base) and the actual price of the cable's copper component. Each list price of a LIFE-LINE cable is based on a calculated copper price of 150,- €/100 kg copper. The price of the copper component however, is calculated on a daily basis according to DEL Notation (DEL = Deutsche Elektrolytkupfernotiz für Leitzwecke – German Electrolyte Copper Notation for Conductors).

The weight of the copper portion in a cable determines the copper number in kg/km. The product of the copper number (in kg/km) and the price difference per kg copper according to the DEL-Notation determines the copper surcharge per km cable in €.

Example:

conductor: LIFE-LINE Part no. 45 765
 copper number: 152 kg/km
 DEL Notation: 190 €,-/100 kg Cu
 copper base: 150 €,-/100 kg Cu

$$\text{copper number [kg/km]} \times \frac{\text{DEL Notation [€/100 kg]} - \text{copper base [€/100 kg]}}{100} = \text{copper surcharge [€/km]}$$

$$152 \times \frac{190 - 150}{100} = 60.8$$

copper surcharge = 60.80 €/km

Copper surcharge in this example: 60.80 €/km cable. Discounts apply only to the cable prices, but not to the copper surcharge (listed separately in our invoices).

Copper Wire Dimensions according to AWG

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

Installation Guidelines

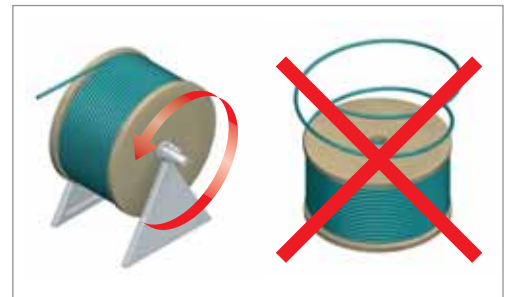
Do not cut ring-coiled cables

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.



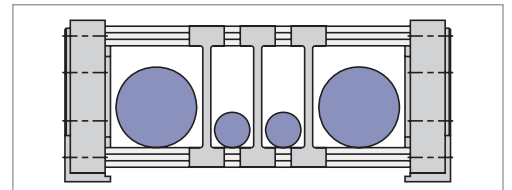
Uncoil cables from reels torsion-free

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

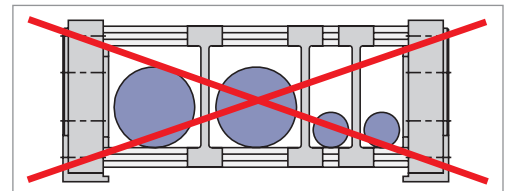


Weight distribution inside the carrier cavity

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.



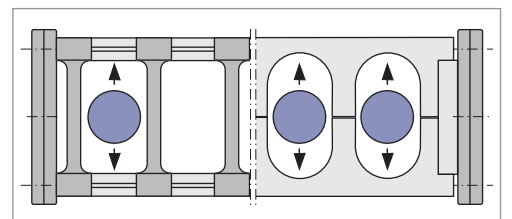
■ Right weight distribution



■ 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.



Installation Guidelines

Installing Cables into the Carrier

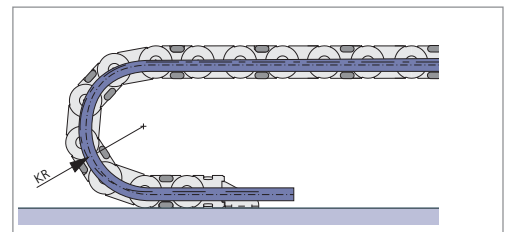
The cables must be inserted into the carrier system in a way to allow them to move independently through the carrier's bend radius.

How to do it:

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

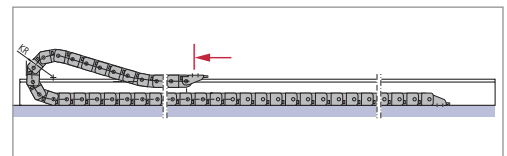
- Insert cables tension-free.

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



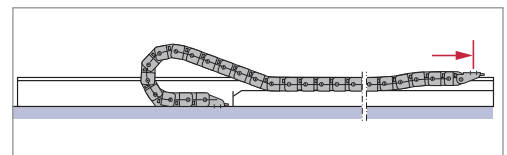
Strain Relief at the Driven End of the Carrier

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



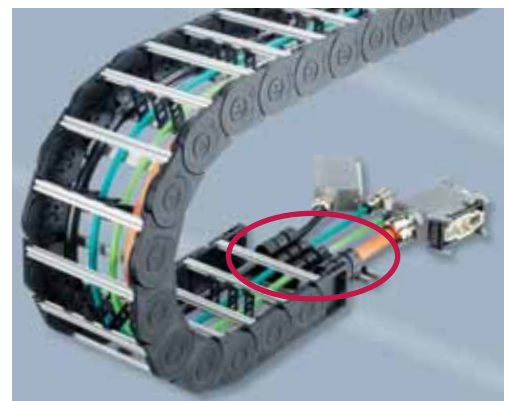
Correct Cable Length inside the Carrier

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.



Definitions

Definition	Description	Example
Design	number of cores x nominal cross-section in mm ²	3 x 1.5 ²
AWG	American Wire Gauge	18AWG/2c
Shielding	without	4 x 1.5 ²
	total	(4 x 1.5 ²)
	total and pair	(4 x (2 x 0.5 ²))
	total and pair and center element	((2 x 0.75 ²) + 2 x (1 ²))
DESINA	decentral and standardized installation technology on machine tools	
ICC	KABELSCHLEPP Integrated Color Code	see page 8
Easy stripable	for perfectly accurate core stripping	see application parameters
Flame-retardant	according to IEC 332-1 Fire Code Regulations	IEC 332-1
halogen-free	according to DIN VDE 0472 part 815	700 Series
INDRAMAT	according to INDRAMAT-Specification	System S 900 C and M 900 C Series
Oil-resistant	for special applications	see application parameters
SIEMENS	according to SIEMENS Specification	System S 800 C and M 800 C Series
UV-resistant	without any restriction	outer jacket: black
UV-stable	time restriction possible	outer jacket: colored
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 x 50 ²) + 2 x (2 x 1.5 ²))
	core stranding in layer design	7 x 1.5 ²
	core stranding in pairs, Twisted Pair (TP)	(8 x 2 x 0.75 ²)

Abbreviation

Abbreviation	Description	Note
C	total shield with Cu-braid	80 % to 95 % optical coverage index
D	double-shielded	CD identification
Ø max	maximum outer diameter	see type selection
EMC	electromagnetic compatibility	use shielded cables
LWL	fiber-optic cables	e.g. 6G62.5/125
PUR	special KABELSCHLEPP compound	11 Y, halogen-free
TPE-E	Thermoplastic Polyester Elastomer	12 Y, halogen-free
TPM	special KABELSCHLEPP compound	halogen-free
PVC	special KABELSCHLEPP PVC compound	Y
UL/CSA	USA/Canada approval	

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 Siegen factory
- Special packaging and
transportation logistics for
delivery to the construction
site
- Up to 50 % time saving
during final assembly



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



Complete system – fully harnessed cable carrier system
MASTER-H Series with electrical cables and connectors.



Application Examples



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



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



- 125 m travel length: carrier fully harnessed with LIFE-LINE Series 700

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Cable and Hose Carrier Systems

Cable carriers made of Steel and Plastic
QUANTUM Cable and hose carrier system
PROTUM Cable and hose carrier system
PROFILE Cable and hose carrier system
ROBOTRAX Cable and hose carrier system
LIFE-LINE Cable systems
TOTALTRAX Turn-Key Systems

Guideway Protection Systems

Telescopic covers
Link apron covers
Way wipers
Conical spring covers
Bellows

Conveyor Systems

Hinged belt conveyors
Scraper conveyors
Belt conveyors

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