Webguide

New Products Autumn 2021

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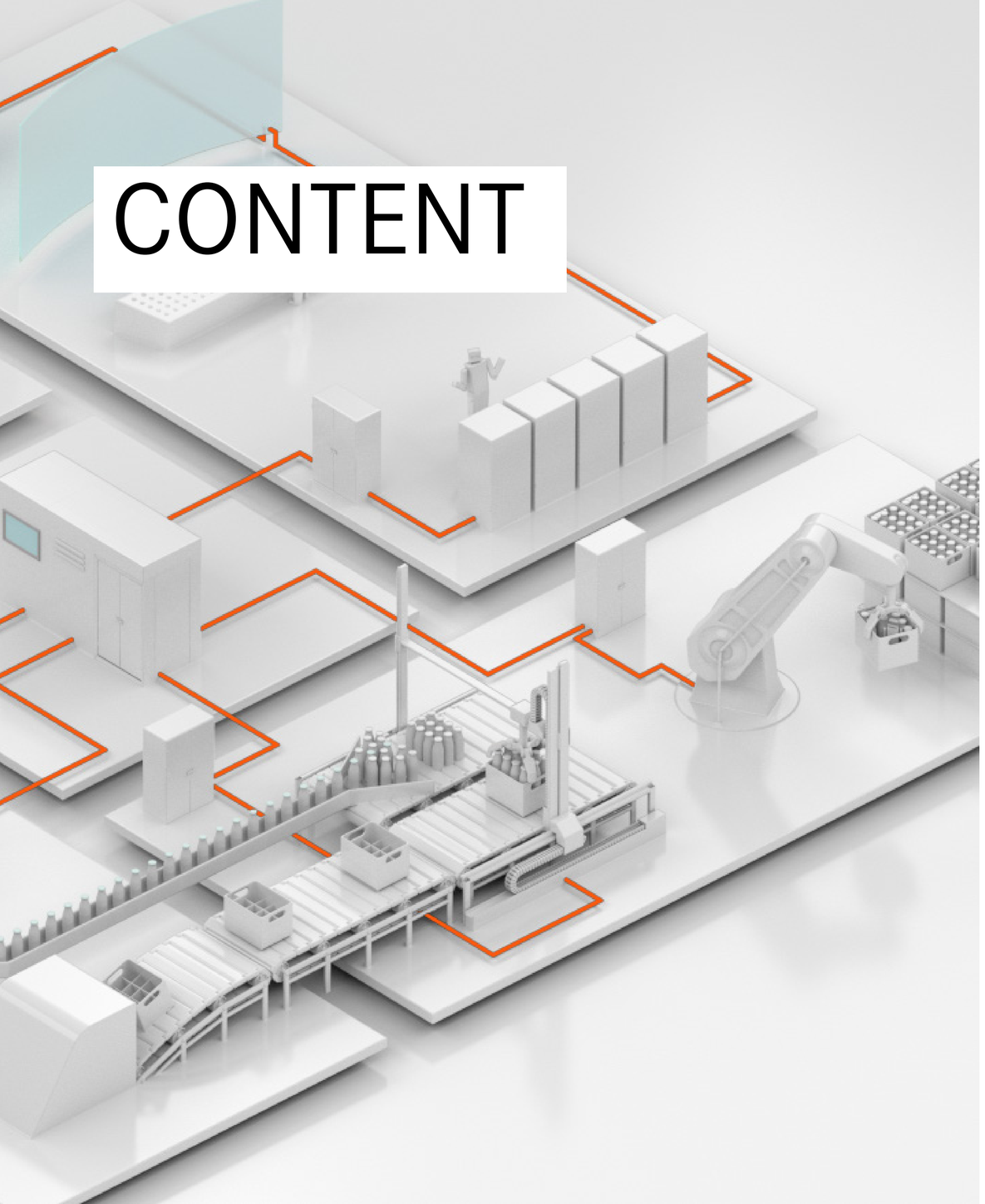

CONTENT

MACHINE AND PLANT ENGINEERING

CABLES AND ACCESSORIES FOR MACHINES AND PLANTS: A PERFECT MATCH

NEW: Autumn 2021

ÖLFLEX® SERVO 2XSLCY-JB
Low-capacitance motor cable with PVC jacket for increased ampacity and longer installation lengths, UV-resistant, with North America certification.

ÖLFLEX® DC ESS SC
Halogen-free, highly flame-retardant single-core cable for DC applications in photovoltaic systems.

UNITRONIC® FD CP plus A
Highly flexible, shielded PUR low-frequency data cable forcontinuous use in drag chains and industrial robots.

UNITRONIC® FD CP (TP) plus A
Highly flexible, shielded PUR low-frequency data cable with twisted-pair stranding for permanent use in drag chains and industrial robots.

SKINTOP® MULTI Flange FL 21
Flange plate with seal, suitable for the multiple entries SKINTOP®MULTI/SKINTOP® CUBE. Reduces the Scandinavian standard mounting cutout FL21.

SKINTOP® MULTI-M
Round multiple entry for up to 30 non-assembled cables. Cable gland with innovative membrane technology for the best possible sealing.

Further Highlights

- ÖLFLEX® CLASSIC 115 CH
- ÖLFLEX® SERVO 719 CY
- ÖLFLEX® SERVO 728 CY
- ÖLFLEX® SERVO FD 798 CP
- ÖLFLEX® SERVO FD 7DSL
- ÖLFLEX® SERVO FD 7OCS
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- H07V-U
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- UNITRONIC® LiYCY (TP) BK / LiYY (TP) BK
- SKINTOP® MS-M 40x1,5 PLUS

CABLES AND ACCESSORIES FOR MACHINES AND ENCLOSURES: A PERFECT MATCH

ÖLFLEX® SERVO 2XSLCY-JB

When converters and motors are being connected, the UL-certified motor cable ensures fault-free, EMC-compliant system operation, i.e. loss-free power transmission over long distances with an increased current rating. The 3+3-core variants additionally minimise damaging motor bearing currents.

UNITRONIC® FD CP PLUS A

Moving is no problem at all: This highly flexible low-frequency data cable performs in all applications relating to movement (robots, cable chains) and can also withstand simple torsion, such as that occurring in the loop of a wind turbine. Signal transmission is very successful thanks to the robust PUR outer sheath and low-capacitance core insulation!

SKINTOP® MULTI FLANGE FL21

There is always a solution: With this flange plate you reduce the size of the Scandinavian standard FL21 mounting cut-out, making you more flexible when selecting your multi-cable entry system. It is compatible with our SKINTOP® MULTI or SKINTOP® CUBE products for simultaneous insertion of several cables into a housing.

ÖLFLEX® DC ESS SC

An ideal candidate for energy storage systems (ESS): this single core cable distributes the direct current e. g. generated by solar modules. The cross-linked insulation and sheathing materials make long-term use outdoors possible. You are also sure to find your required conductor cross-section among the 17 different variants!

UNITRONIC® FD CP (TP) PLUS A

Moving is no problem at all: This highly flexible low-frequency data cable performs in all applications relating to movement (robots, cable chains) and can also withstand simple torsion, such as that occurring in the loop of a wind turbine. Signal transmission is very successful thanks to the robust PUR outer sheath and low-capacitance core insulation! For ideal decoupling of conductor circuits with TP structure.

SKINTOP® MULTI-M

Still completely sealed?The round, screw-in multi-cable entry system introduces up to 30 cables simultaneously into a housing and seals them with IP 68 protection. If required, we can now also supply the SKINTOP® MULTI-M in sizes M25 and M32 for 4 or 8 cables. You can be very flexible when selecting the cable diameter!

Power and control cables

Servo applications • PVC sheath, certified

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000057
ETIM 5.0/6.0 Class-Description: Low voltage power cable

Core identification code
Colours according to HD 308 S2 VDE 0293-308

Conductor stranding
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 4 x outer diameter

Nominal voltage
IEC U_0/U: 600/1000 V
UL & CSA: 1000 V

Test voltage
4000 V

Protective conductor
Protective conductor of 3+3 version is gusset-filling divided between power cores

Temperature range
Flexing:
-15°C to +90 °C (UL/CSA +80°C)
Fixed installation:
-40°C to +90 °C (UL/CSA +80°C)

ÖLFLEX® SERVO 2XSLCY-JB

Low-capacitance motor cable with PVC jacket for increased ampacity and longer installation lengths, UV-resistant, with North America certification.

Benefit

- Power supply for large drives possible.
- Ideal protection against electromagnetic interference thanks to double shielding made of aluminium-laminated foil and copper braiding with a high degree of coverage.
- Low-capacitance XLPE core insulation with outstanding electrical properties enables long transmission paths.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- UL/CSA certification according to technical data enables the product to be used on the North American market.
- Product with multiple certifications enables universal use and reduces the variety of parts, thus guaranteeing logistics savings.
- Operating voltage of 1000 V according to UL, permitted for North America.
- Available as a 4-core version and 3+3 balanced version.
- Versions with symmetrical cable design and splitted protective conductor largely prevent the generation of damaging bearing currents inside the motor. A reduction in motor bearing damage contributes to the durability of motors.
- The optimized core insulation makes stripping easier and improves cable flexibility.

Application

- For connecting frequency converters and servo motors.
- For fixed installation and occasional flexing.
- Can be used in dry, damp or wet environments.
- Suitable for medium mechanical stress.
- The PVC outer sheath is resistant to acids and alkalis, and to oil to a limited degree.
- Suitable for outdoor use.

ÖLFLEX® DC ESS SC

Halogen-free, highly flame-retardant single-core cable for DC applications

Benefit

- Cross-linked insulation and sheath materials promote durability at high temperatures or at high current load, ensure a high dielectric strength and a high maximum short circuit temperature.
- Halogen-free and highly flame-retardant materials reduce the risk of flame propagation, high smoke density and toxicity of smoke gases in the event of a fire.
- Good installation properties thanks to fine-wire, flexible conductor design.
- Available in conductor cross-sections up to 400 mm².

Application

- For direct current applications up to 1.5 kV.
- For use in energy storage systems (ESS).
- For fixed installation.
- Can be used in dry, damp or wet environments.
- The electron beam cross-linked polymer compound is highly resistant to oils, fuels, alkalis and acids.
- Suitable for outdoor use.
- Can be used at temperatures down to –40°C.

Technical Data

Conductor stranding
Fine wire strands of tinned copper accordance to VDE 0295 Class 5 / IEC 60228 Class 5

Minimum bending radius
Occasional flexing: 15 x outer diameter,
Fixed installation: 5 x outer diameter

Nominal voltage
DC 1500 V

Temperature range
Fixed installation: -40 °C up to +120 °C max. conductor temperature

Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description: Control cable

Core identification code
DIN 47100, refer to Appendix T9

Mutual capacitance
C/C approx. 60 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Stranded, extra-fine wire

Torsion movement in WTG
TW-0 & TW-2, refer to Appendix T0

Minimum bending radius
Flexing: 7.5 x outer diameter
Fixed installation: 4 x outer diameter

Test voltage
Core/Core: 1500 V
Core/Shield: 1500 V

Temperature range
-40 °C to +80 °C
cRUus AWM: max. +80 °C

UNITRONIC® FD CP plus A

Highly flexible, shielded PUR low-frequency data cable for continuous use in drag chains and industrial robots.

Benefit

- The very robust cable design and the possibility of use over an extremely wide temperature range opens up a broad scope of applications.
- Durable, insensitive product thanks to abrasion, notch and cut-resistant PUR outer sheath material.
- Low-capacitance core insulation for long transmission paths or higher transmission speeds.
- Ideal protection against electromagnetic interference thanks to copper braiding with a high degree of coverage.
- Relatively small bending radii are achieved thanks to highly flexible cable design.
- UL certification according to technical data enables the product to be used on the North American market.

Application

- Can be used universally at machine interfaces for many applications in data and signal transmission in the low-frequency range.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design enables flexible, constantly flexing use in industrial robots (without torsional stress) and handling devices.
- Cable design enables flexible use in moving machine parts and in a cable chain.
- Cable design suitable for torsion applications in wind turbines.
- Can be used in dry, damp and especially in harsh and oily environments.
- The PUR outer sheath is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.
- Suitable for outdoor use in Europe.
- Flexible use at temperatures down to –40°C.

Data communication systems

Low frequency data transmission cables • Highly flexible and UL/CSA-certified

UNITRONIC® FD CP (TP) plus A

Highly flexible, shielded PUR low-frequency data cable with twisted-pair stranding for permanent use in drag chains and industrial robots.

Benefit

- The very robust cable design and the possibility of use over an extremely wide temperature range opens up a broad scope of applications.
- The conductor circuits are well decoupled thanks to the twisted pair (TP) with short lay lengths.
- Durable, insensitive product thanks to abrasion, notch and cut-resistant PUR outer sheath material.
- Low-capacitance core insulation for long transmission paths or higher transmission speeds.
- Ideal protection against electromagnetic interference thanks to copper braiding with a high degree of coverage.
- Relatively small bending radii are achieved thanks to highly flexible cable design.
- UL certification according to technical data enables the product to be used on the North American market.

Application

- Can be used universally at machine interfaces for many applications in data and signal transmission in the low-frequency range.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design enables flexible, constantly flexing use in industrial robots (without torsional stress) and handling devices.
- Cable design enables flexible use in moving machine parts and in a cable chain.
- Cable design suitable for torsion applications in wind turbines.
- Can be used in dry, damp and especially in harsh and oily environments.
- The PUR outer sheath is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.
- Suitable for outdoor use in Europe.
- Flexible use at temperatures down to –40°C.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description: Control cable

Core identification code
DIN 47100, refer to Appendix T9

Mutual capacitance
Up to 0.5 mm²: 60 nF/km
Up to 1.0 mm²: 70 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Stranded, extra-fine wire

Torsion movement in WTG
TW-0 & TW-2, refer to Appendix T0

Minimum bending radius
Flexing: 7.5 x outer diameter
Fixed installation: 4 x outer diameter

Test voltage
Core/Core: 1500 V
Core/Shield: 1500 V

Temperature range
-40 °C to +80 °C
cRUus AWM: max. +80 °C

Cable glands

SKINTOP® cable bushing systems • Accessories for multi-cable entries

SKINTOP® MULTI Flange FL21

Flange plate with seal, suitable for the multiple entries SKINTOP® MULTI / SKINTOP® CUBE. Reduces the Scandinavian standard mounting cutout FL21.

Benefit

- Reduces the rectangular, standard FL21 mounting cut-out and allows flexibility when selecting the multi-cable entry system.
- Versatile use in various applications and environments.
- Pre-assembled NBR seal enables reliable sealing to the housing (protection class IP 66).
- Easy assembly with 4 fastening screws.
- Stable construction made of powder-coated steel sheet or V2A stainless steel.

Application

- For cable entry into a housing with Scandinavian FL21 mounting cut-out, while simultaneously using the SKINTOP® MULTI or SKINTOP® CUBE multi-cable entry systems.
- Can be used in dry, damp and oily environments.
- Suitable for outdoor use.

Technical Data

Material
Steel,
Stainless steel
Sealing: NBR

Protection rating
IP 66

Temperature range
-10 °C to +70 °C

Cable glands

SKINTOP® cable bushing systems • Cable bushing systems

SKINTOP® MULTI-M

WHAT IS NEW? Round multiple entry for up to 30 non-assembled cables.
Cable gland with innovative membrane technology for the best possible sealing.

Benefit

- Multi-cable entry system allows a higher packing density (up to 30 cables depending on the variant).
- Large clamping ranges, variable by 4 mm each for different cable diameters.
- Direct cable entry without pre-piercing the bushings.
- Flexibility in selecting the cable diameter reduces the variety of parts in the warehouse, generating logistical and cost benefits.
- Easy assembly on the housing by screwing or fastening with a lock nut.
- Unused bushings remain securely closed and sealed thanks to elastic gel technology with innovative membrane technology.
- The best possible sealing to the housing and the cables enables protection class IP 68.
- UL certification according to technical data enables the product to be used on the North American market.

Application

- For sealing and strain-relief insertion of multiple non-assembled cables through a housing.
- Can be used in dry, damp and oily environments.
- Suitable for outdoor use.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000240
ETIM 5.0/6.0 Class-Description:
Cable entry

Certifications
UL File No. E349737
Fire behaviour acc. to UL94 V-2
Hazard Level HL 2 acc. to EN 45545-2

Note
On request:
- individual bushing configuration
- other metric thread sizes

Material
Frame: Polycarbonat
Sealing: Gel
O-Ring: NBR

Protection rating
IP 68

Temperature range
With O-ring: -20 °C to +100 °C
Without O-ring: -30 °C to +110 °C

FURTHER HIGHLIGHTS

Power and control cables

Various applications • Halogen-free ÖLFLEX®

ÖLFLEX® CLASSIC 115 CH

Halogen-free core insulation and sheathing compound

Benefit

- Easy handling and installation due to very flexible design.
- Release of inner sheath results in lower weight and smaller outer diameters.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- Halogen-free and highly flame-retardant materials reduce the risk of fire propagation, high smoke density and toxic fumes in case of fire.
- Increased oil resistance according to DIN EN 50363-4-1 (TM5) as well as UL OIL RES I and OIL RES II.
- Ideal protection against electromagnetic interference due to copper braided shield with high degree of coverage.
- High electrical safety due to 4000V test voltage.
- UL certification according to technical data allows use of the product in the North American area.

Application

- For building wiring to meet special fire protection requirements.
- Universally applicable for wiring internal and inter-plant control circuits.
- For fixed installation and occasional movement without tensile stress.
- Can be used in dry, damp and especially in oily environments.
- Suitable for medium mechanical stress.
- HFFR outer sheath is largely resistant to acids and alkalis.
- Can be used temporarily outdoors, considering the temperature range.
- Flexible use possible down to -30 °C.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000104
ETIM 5.0/6.0 Class-Description:
Control cable

Core identification code
Black with white numbers acc. to VDE 0293-334

Conductor stranding
Fine wire according to VDE 0295, class 5/IEC 60228 class 5

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 6 x outer diameter

Nominal voltage
U_0/U: 300/500 V
UL: 600 V

Test voltage
4000 V

Protective conductor
G = with GN-YE protective conductor
X = without protective conductor

Temperature range
Occasional flexing: -30 °C to +70 °C (UL: +75 °C)
Fixed installation: -40 °C to +80 °C (UL: +75 °C)

Power and control cables

Various applications • Halogen-free ÖLFLEX®

ÖLFLEX® CLASSIC 128 H BK SC

Halogen-free cable, single core, CPR Cca, for building wiring.

Benefit

- Easy handling and installation due to flexible design.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- Halogen-free and highly flame-retardant materials reduce the risk of fire propagation, high smoke density and toxic fumes in case of fire.
- High electrical safety due to 4000V test voltage.

Application

- For building wiring to meet special fire protection requirements.
- Universally applicable for wiring of internal and inter-plant control circuits.
- For fixed installation and occasional movement without tensile stress.
- Can be used in dry and damp rooms.
- Suitable for medium mechanical stress.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000057
ETIM 5.0/6.0 Class-Description: Low voltage power cable

Core identification code
Black

Conductor stranding
Fine wire according to VDE 0295
Class 5/ IEC 60228 Class 5

Torsion movement in WTG
TW-0 & TW-1, refer to Appendix T0

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 4 x outer diameter

Nominal voltage
U_0/U: 600/1000 V

Test voltage
4000 V

Protective conductor
G = with GN-YE protective conductor
X = without protective conductor

Temperature range
Occasional flexing: -5 °C to +70 °C
Fixed installation: -40 °C to +80 °C

Power and control cables

Servo applications • PVC sheath, certified

ÖLFLEX® SERVO 719 CY

WHAT IS NEW? Shielded PVC servo cable, for fixed installation, North America certification.

Benefit

- Compatible with servo drives from well-known manufacturers.
- Ideal protection against electromagnetic interference due to copper shielding braid with high degree of coverage.
- Low-capacity core insulation for long transmission distances.
- UL/CSA certification according to technical data enables use of the product in the North American area.
- Product with multiple certifications enables universal use, reduces variety of parts and thus ensures savings in logistics.
- Operating voltage of 1000 V permitted by UL for North America.
- Product is available both without and with control wire pairs for e.g. brake and temperature sensor (one shielded control wire pair or triplet or two shielded control wire pairs).

Application

- For connecting frequency inverter and servo motor.
- For fixed installation and occasional movement without tensile stress.
- Can be used in dry and damp rooms.
- Suitable for medium mechanical stress.
- PVC outer sheath is resistant to acids and alkalis and conditionally resistant to oil.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D /L-; GN/YE protective conductor
Single-paired versions: individual design depending on the item
black; white or brown; white
Double-paired versions: black with white numbers 5; 6; 7; 8
0.34 mm² pairs: WH/BN/GN/YE
Triplet: black with white numbers 1; 2; 3

Conductor stranding
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 6 x outer diameter

Nominal voltage
Power cores and control cores:
IEC U_0/U: 600/1000 V
UL & CSA: 1000 V

Test voltage
Core/Core: 4 kV
Core/Screen: 4 kV

Protective conductor
G = with GN-YE protective conductor

Temperature range
Occasional flexing:
-5 °C to +70 °C (UL: +80 °C)
Fixed installation: -40 °C to +80 °C

Power and control cables

Servo applications • PVC sheath, certified

Click or Scan – More information available online

ÖLFLEX® SERVO 728 CY

WHAT IS NEW? Shielded PVC encoder cable, for fixed installation, North America certification.

Benefit

- Compatible with encoder systems from well-known manufacturers.
- Low-capacity wire insulation for long transmission distances.
- UL/CSA certification according to technical data enables use of the product in North America.
- Product with multiple certifications enables universal use, reduces variety of parts and thus ensures savings in logistics.
- Available in various cable construction variants.
- Available in different shielding variants for ideal protection against electromagnetic interference.

Application

- For connecting the feedback system in the servo motor to the frequency inverter.
- For fixed installation and occasional movement.
- Can be used in dry, damp and wet rooms.
- Suitable for medium mechanical stress.
- PVC outer sheath is resistant to acids and alkalis and conditionally resistant to oil.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Core identification code
Details see datasheet
ÖLFLEX® SERVO 728 CY

Conductor stranding
Fine wire acc. to VDE 0295, class 5 / IEC 60228 class 5
from 0.5 mm²

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 6 x outer diameter

Nominal voltage
IEC: 30 V
UL & CSA: 300 V

Test voltage
C/C: 2000 V
C/S: 1000 V

Temperature range
Occasional flexing:
-5 °C to +70 °C (UL: +80 °C)
Fixed installation: -40 °C to +80 °C

Power and control cables

Power chain applications • Servo applications – power drive systems, certified

ÖLFLEX® SERVO FD 798 CP

WHAT IS NEW? Shielded PUR encoder cable, for drag chain, North America certification.

Benefit

- Compatible with encoder systems from renowned manufacturers.
- Highly flexible cable design ensures maximum product performance.
- Long service life with long travels or high accelerations (LAPP performance class „Extended Line“). This results in longer maintenance cycles, saving costs and increasing the efficiency of machines.
- Extremely weather-resistant with the possibility of use in a wide temperature range.
- Particularly resistant to oil and drilling fluids, making it ideal for harsh environments.
- Low-capacity core insulation for long transmission distances.
- UL/CSA certification according to technical data enables use of the product in North America.
- Product with multiple certifications enables universal use, reduces the number of parts and thus ensures savings in logistics.
- Available in various cable construction variants.
- Available in different shielding variants for ideal protection against electromagnetic interference.

Application

- For connecting the feedback system in the servo motor to the frequency inverter.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design allows highly flexible, continuously moving use in moving machine parts and in the drag chain.
- Can be used in dry, damp and especially in rough and oily environments.
- PUR outer sheath withstands high mechanical loads.
- PUR outer jacket is insensitive to mineral oil-based lubricants and chemically resistant in many cases.
- Suitable for outdoor use.
- Flexible use possible at up to -40 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
Details see datasheet ÖLFLEX® SERVO FD 798 CP

Conductor stranding
Fine wire or extra-fine wire

Minimum bending radius
Flexing: up from 7.5 x outer diameter
Fixed installation: 4 x outer diameter

Nominal voltage
IEC: 30 V
UL & CSA: 30 V

Test voltage
Core/core: 1500 V rms
Core/screen: 750 V rms

Temperature range
Flexing: -40 °C to +90 °C
(UL/CSA: +80 °C)
Fixed installation: -50 °C to +90 °C
(UL/CSA: +80 °C)

Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue

Power and control cables

Power chain applications • Servo applications – power drive systems, certified

Click or Scan – More information available online

ÖLFLEX® SERVO FD 7DSL

WHAT IS NEW? Hybrid servo cable, for drag chain and special One Cable Solution interfaces.

Benefit

- Space- and weight-saving hybrid cable for simultaneous power supply, signal and data transmission (single-cable technology).
- Compatible with single-cable technology interfaces such as HIPERFACE DSL® and SCS open link.
- Allows space-saving installation without additional encoder cable. Instead of the encoder cable, integrated signal pairs, signal wires or star quad bundles take over the signal transmission.
- Lower connection costs due to less cabling and quick installation of fewer components.
- Highly flexible cable design ensures maximum product performance.
- Long service life with long travel distances or high accelerations (LAPP performance class „Extended Line“). This results in longer maintenance cycles, saving costs and increasing the efficiency of machines.
- Low-capacity core insulation for long transmission paths.
- Ideal protection against electromagnetic interference due to copper shielding braid with high degree of coverage.
- UL/CSA certification according to technical data enables use of the product in the North American region.

Application

- For connecting frequency inverters and servo motors.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design allows highly flexible, continuous motion use in moving machine parts and in the drag chain, with horizontal travels up to 20 m.
- Can be used in dry, wet and especially in rough and oily environments.
- PUR outer jacket withstands high mechanical loads.
- PUR outer jacket is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.
- Suitable for outdoor use.
- Flexible use possible at up to -40 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
Power cores: black with marking U/L1/C/L+; V/L2; W/L3/D /L-; GN/YE protective conductor
Signal pair: white, blue
Control pair (optional): black with white numbers 5 + 6

Conductor stranding
Extra-fine wire according to VDE 0295, class 6/IEC 60228 class 6
DSL data pair: 19-wired

Minimum bending radius
Flexing: up from 7.5 x outer diameter
Fixed installation: 5 x outer diameter

Nominal voltage
Power and control:
IEC: U_0/U: 600/1000 V
UL: 1000 V
Signal pair: 300 V

Test voltage
Power and control: 4 kV
Data pair: 1kV

Protective conductor
G = with GN-YE protective conductor

Temperature range
Flexing: -40 °C to +90 °C
(UL: +80 °C)
Fixed installation: -50 °C to +90 °C
(UL: +80 °C)

Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue

Power and control cables

Power chain applications • Servo applications – power drive systems, certified

Click or Scan – More information available online

ÖLFLEX® SERVO FD 7OCS

WHAT IS NEW? Hybrid servo cable, for drag chain and different One Cable Solution interfaces.

Benefit

- Space- and weight-saving hybrid cable for simultaneous power supply, signal and data transmission (single-cable technology).
- Compatible with single-cable technology interfaces of many manufacturers.
- Allows space-saving installation without additional encoder cable. Instead of the encoder cable, integrated signal pairs, signal wires or star quad bundles take over the signal transmission.
- Lower connection costs due to less cabling and quick installation of fewer components.
- Highly flexible cable design ensures maximum product performance.
- Long service life with long travel distances or high accelerations (LAPP performance class „Extended Line“). This results in longer maintenance cycles, saving costs and increasing the efficiency of machines.
- Low-capacity core insulation for long transmission paths.
- Ideal protection against electromagnetic interference due to copper shielding braid with high degree of coverage.
- UL/CSA certification according to technical data enables use of the product in North America.

Application

- For connecting frequency inverters and servo motors.
- Especially for environments where electromagnetic compatibility (EMC) is required.
- Cable design allows highly flexible, continuously moving use in moving machine parts and in the drag chain, with horizontal travels up to 20 m.
- Can be used in dry, wet and especially in rough and oily environments.
- PUR outer jacket withstands high mechanical loads.
- PUR outer jacket is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.
- Suitable for outdoor use.
- Flexible use possible at up to -40 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
Details see datasheet

Conductor stranding
Power cores and brake pairs or triplets: Extra-fine wire according to VDE 0295, class 6/IEC 60228 class 6
Signal cores, data pairs or star quads: Fine-wired

Minimum bending radius
Flexing: 7.5 x outer diameter
Fixed installation: 5 x outer diameter

Nominal voltage
Power and control cores:
Version 1,3 & 4: IEC U_0/U 600/1000 V
Version 2: IEC 300 V
UL all versions: see data sheet
Individual data pairs and quads:
see data sheet

Test voltage
Details see datasheet

Protective conductor
G = with GN-YE protective conductor

Temperature range
Flexing: -40 °C to +80 °C
Fixed installation: -50 °C to +80 °C

Bending cycles & operation parameters
See Selection Table A2-1 in the appendix of our online catalogue

Power and control cables

Control Cabinet Single Cores • Halogen-free

H05Z-K 90°C

WHAT IS NEW? The halogen-free control cabinet single core according to type H05Z-K is now also available on reel.

Benefit

- Manufactured according to harmonised European design H05Z-K, with test mark <HAR> for tested safety and quality.
- <HAR> cables widely accepted and applicable in Europe.
- Halogen-free core insulation compound as well as low smoke development and low corrosiveness of the gases in case of fire favour the use in public areas.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- Compact design for easy processing.
- Various core insulation colours available.
- Available as ring, on spool or in disposable large carton.

Application

- For wiring internal machine circuits, in compliance with special fire protection requirements.
- Suitable for wiring inside control cabinets.
- For wiring luminaires.
- For fixed and protected installation in electrical conduits on or under plaster.
- Can be used on cable trays for open laying for equipotential bonding.
- Can be used in dry rooms.
- For operating temperatures from -40 °C to +90 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000993
ETIM 5.0 Class-Description: Single core cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000993
ETIM 6.0 Class-Description: Single core cable

Conductor stranding
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5

Minimum bending radius
According to EN 50565-1
4 x outer diameter (OD) for normal use; 2 x OD for cautions bending

Nominal voltage
U_0/U: 300/500 V

Test voltage
2000 V AC

Current rating
VDE 0298-4
EN 50565-1/ VDE 0298-565-1

Temperature range
During installation: -5 °C bis +90 °C
Fixed installation: -40 °C bis +90 °C

Power and control cables

Control Cabinet Single Cores • Halogen-free

H07Z-K 90°C

WHAT IS NEW? The halogen-free control cabinet single core according to type H07Z-K is now also available on reel.

Benefit

- Manufactured according to harmonised European design H07Z-K, with test mark <HAR> for tested safety and quality (does not apply to: transparent, green (single colour), yellow (single colour), all double colours (except green-yellow and yellow-green)).
- <HAR> cables widely accepted and usable in Europe.
- Halogen-free core insulation compound as well as low smoke development and low corrosiveness of the gases in case of fire favour the use in public areas.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- Compact design for easy processing.
- Various core insulation colours available.
- Available as ring, on spool or in disposable bulk carton. Availability of large cartons depends on colour and cross-section and is generally only available up to 6 mm² conductor cross-section.

Application

- For wiring internal machine circuits, in compliance with special fire protection requirements.
- Suitable for wiring inside control cabinets.
- For wiring luminaires.
- For fixed and protected installation in electrical conduits on or under plaster.
- Can be used on cable trays for open laying for equipotential bonding.
- Can be used in dry rooms.
- For operating temperatures from -40 °C to +90 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000993
ETIM 5.0 Class-Description: Single core cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000993
ETIM 6.0 Class-Description: Single core cable

Conductor stranding
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5

Minimum bending radius
According to EN 50565-1
OD ≤ 8 mm: 4 x OD*/2 x OD**;
8 < OD ≤ 12 mm: 5 x OD*/3 x OD**;
OD > 12 mm: 6 x OD*/4 x OD**

Nominal voltage
U_0/U: 450/ 750 V

Test voltage
2500 V

Current rating
VDE 0298-4
EN 50565-1/ VDE 0298-565-1

Temperature range
During installation: -5 °C bis +90 °C
Fixed installation: -40 °C bis +90 °C

Tube cable lugs KRFS

Tube cable lugs KRFS with narrow flange for cables of class 2, 5 and 6, especially for installation using cable glands

Benefit

- Thanks to the particularly narrow connection flange, it is ideal when space is limited. The connection flange width is smaller than/equal to the pipe diameter.
- Can still be fed through cable glands after connection to the pipe.
- High-quality electrolytic copper ensures high functional reliability and load capacity.
- With inspection hole for checking the secure hold.

Application

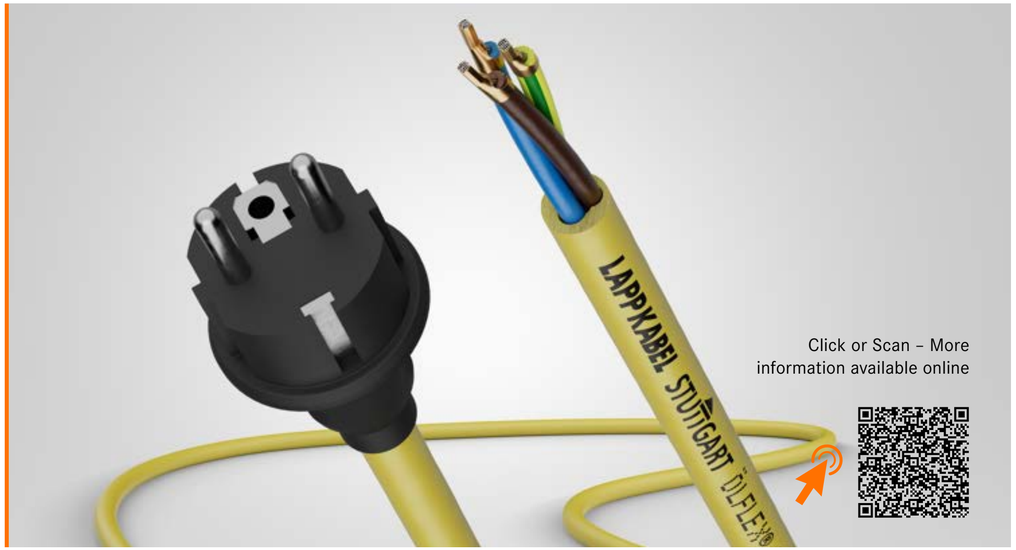
- To create a secure crimp connection with stranded, fine and superfine copper conductors of classes 2, 5 and 6 (conductor cross-sections 50–240 mm²).
- Suitable for outdoor use.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC001051
ETIM 5.0 Class-Description: Tube cable lug for copper conductors

Material
Tinned electrolyte copper

Temperature range
Temperature range up to +90 °C
Working temperature: 110 °C, max. +140 °C



ÖLFLEX® PLUG 540 P single-phase hookup assembly

Hookup power assembly from the metre goods cable ÖLFLEX® 540 P

Benefit

- 3-core variants with IP44, conductor cross section 1.5 mm² and earth contact plug in line with German BG, resp. DGUV, regarding heavy-duty conditions, category K2, increased electrical hazard, construction/assembly sites.
- 3-core variants with 2-pin central CEE 7/7 earth contact plug offer IP 44.
- Compatible with plug-fit systems type E and type F as well as with pin assignment according to the Czech CSN standard for extensive use in Europe.
- Durable product thanks to chemical and mechanical resistances of the integrated metre ware as well as UV/ozone resistance of the entire assembly.

Application

- In equipment and control cabinet construction, plugged into TN infrastructure with U_0/U = 230/400 V AC.
- 3-core variants with IP44 and conductor cross section 1.5 mm² for category K2 per German BGI/GUV-I 600, for increased electrical hazard per German BGI 594 and under heavy-duty conditions per VDE 0620-2-1 incl. construction/assembly sites per German DGUV 203-006 (BGI/GUV-I 608) (yet excl. extraordinary operating circumstances).
- 2-core variants with IP20 must not get in contact with water and are not intended for industrial applications or construction/assembly sites. The integrated robust cable ÖLFLEX® 540 P is limitedly resistant to acids, alkalis and oils.
- 3-core variants with IP44 for outdoor use in Europe (no immersion).

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC001576
ETIM 5.0 Class-Description: Power cord

Classification ETIM 6
ETIM 6.0 Class-ID: EC001576
ETIM 6.0 Class-Description: Power cord

Core identification code
According to VDE 0293-308 (table T9)

Conductor stranding
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5

Minimum bending radius
Occasional flexing: 10 x outer diameter
Fixed installation: 4 x outer diameter

Nominal voltage
Plugs' Rated Voltage 250 V as per VDE 0620-2-1 **solely** relevant and **permissible regarding** continuous **operation of the entire, finished, harnessed assembly IEC nominal AC voltage classes of the integrated metre ware cable** ÖLFLEX® 540 P by LAPP, depending on the nominal conductor cross section of the cable:
U_0/U = 300/500 V for cable conductors of 1 mm² and smaller,
U_0/U = 450/750 V for cable conductors not smaller than 1.5 mm²
(unpermissible as reference for the maximum, permanent operating voltage of the entire harnessed assembly, but instead solely the rated voltage of the plug of 250 V acc. to VDE 0620-2-1 is permissible for the assembly)

Test voltage
Assembly: 2000 V

Protective conductor
G = with GN-YE protective conductor

Power and control cables

Control Cabinet Single Cores • Various applications

H07V-U

WHAT IS NEW? The single core with <HAR> type certification is now also available as a 100m ring.

Benefit

- Manufactured according to harmonized European type H07V-U, with test mark <HAR> for tested safety and quality (does not apply to green (single colour), yellow (single colour).
- <HAR>-cables widely accepted and applicable in Europe.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.com/cpr.html.
- Compact design for easy processing.
- Versatile use in diverse applications and environments.
- Various core insulation Colors available.
- Different ring lengths available.
- Longer ring lengths save walking distances. The extra lengths are ideal for use with the TRONIC module. The module is used in combination with the TRONIC single core trolley for controlled and guided cutting to length as well as for orderly and compact storage of single cores.

Application

- For wiring internal machine circuits.
- Suitable for wiring inside control cabinets.
- For wiring luminaires.
- Can also be used for in-house electrical installation.
- Maxi rings (item numbers ending in „X“) are suitable for use with the TRONIC module.
- For fixed and protected installation in closed installation ducts, on or under plaster.
- Can be used on cable trays for open laying for equipotential bonding.
- Can be used at temperatures as low as -40 °C.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000993
ETIM 5.0 Class-Description: Single core cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000993
ETIM 6.0 Class-Description: Single core cable

Conductor stranding
Massive conductor according to
VDE 0295 Class 1/ IEC 60228 Class 1

Minimum bending radius
According to EN 50565-1
Fixed installation: 4 x outer diameter

Nominal voltage
U_0/U: 450/750 V

Test voltage
2500 V

Current rating
VDE 0298 Part 4
EN 50565-1/ VDE 0298-565-1

Temperature range
Fixed installation: -40 °C to +80 °C

Protective cable conduit systems and cable carrier systems

Parallel corrugated protective cable conduit systems • High mechanical resistance •

SILVYN® FPAD-M

Conduit fitting with integrated cable strain relief for use with protective conduits SILVYN® FPAS and SILVYN® HCC

Benefit

- Provides additional strain relief for cable(s) through integrated SKINTOP® cable gland with flexible lamellas.
- Quick-release fastener with locking device protects against unintentional opening of the conduit system.
- Easy disassembly of the conduit fitting by help of a screwdriver.
- Liquid-tight in accordance with protection class IP 66 / IP 68 (on the hose side, in conjunction with SILVYN® FPAS and SILVYN® HCC protective conduits).
- Large, variable clamping ranges allow for different cable outer diameters.
- Product is available in three different metric sizes.

Application

- For universal use at machine interfaces to connect a protective conduit system.
- For protective conduit systems that require additional strain relief while maintaining a high level of sealing.
- For use with SILVYN® FPAS and SILVYN® HCC protective conduits.
- Can be used in dry, wet and especially in rough and oily environments.
- Withstands chemical and mechanical stress
- Suitable for outdoor use.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC001176
ETIM 5.0 Class-Description: Screw connection for corrugated plastic hose

Classification ETIM 6
ETIM 6.0 Class-ID: EC001176
ETIM 6.0 Class-Description: Screw connection for corrugated plastic hose

Certifications
IEC EN 61386-23

Colour delivered
Black (RAL 9005), UV-resistant

Material
PA66
Halogen-free

Protection rating
IP66 or IP68 depending on the fitting

Temperature range
-30 °C to +100 °C

Data communication systems

Low frequency data transmission cables • DIN colour code

UNITRONIC® LiYCY BK

Variant with black outer jacket (BK) for outdoor use

Benefit

- Variety of dimensions available for a wide range of applications.
- Compact design allows small outer diameters despite high number of cores.
- Insensitive to electromagnetic interference thanks to copper braided shield with high degree of coverage.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at https://www.lappkabel.com/cpr.html.

Application

- Universally applicable at machine interfaces for many applications for data and signal transmission in the low frequency range.
- Suitable for computer systems, electronic control and regulating devices, office machines, scales, etc.
- For permanent installation.
- Can be used in dry and damp environments.
- Suitable for light mechanical stress.
- PVC outer sheath is conditionally oil-resistant.
- Suitable for outdoor use, considering the temperature range.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
DIN 47100 without colour repetition, refer to Appendix T9

Mutual capacitance
C/C: approx. 120 nF/km
C/S: approx. 160 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Stranded, fine-wire
0.34 mm²: 7-wire

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 6 x outer diameter

Temperature range
Occasional flexing: -5 °C to +70 °C
Fixed installation: -40 °C to +80 °C

Data communication systems

Low frequency data transmission cables • DIN colour code

UNITRONIC® LiYCY (TP) BK

Variant with black outer jacket (BK) for outdoor use

Benefit

- Due to the pair stranding (TP, twisted pair) with short lay lengths, the conductor circuits are well decoupled.
- Insensitive to electromagnetic interference thanks to copper braided shield with high degree of coverage.
- Compact design allows small outer diameters despite high number of cores.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at https://www.lappkabel.com/cpr.html.

Application

- Universally applicable at machine interfaces for many applications for data and signal transmission in the low frequency range.
- Suitable for computer systems, electronic control and regulating devices, office machines, scales, etc.
- For permanent installation.
- Can be used in dry and damp environments.
- Suitable for light mechanical stress.
- PVC outer sheath is conditionally oil-resistant.
- Suitable for outdoor use, considering the temperature range.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
DIN 47100, refer to Appendix T9

Mutual capacitance
C/C: approx. 120 nF/km
C/S: approx. 160 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine copper wire strands

Minimum bending radius
Occasional flexing: 15 x outer diameter
Fixed installation: 6 x outer diameter

Temperature range
Occasional flexing: -5 °C to +70 °C
Fixed installation: -40 °C to +80 °C

Data communication systems

Low frequency data transmission cables • DIN colour code

UNITRONIC® LiYY BK

Variant with black outer jacket (BK) for outdoor use

Benefit

- Variety of dimensions available for a wide range of applications.
- Compact design allows small outer diameters despite high number of cores.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at https://www.lappkabel.com/cpr.html.

Application

- Universally applicable at machine interfaces for many applications for data and signal transmission in the low frequency range.
- Suitable for computer systems, electronic control and regulating devices, office machines, scales, etc.
- For permanent installation.
- Can be used in dry and damp environments.
- Suitable for light mechanical stress.
- PVC outer sheath is conditionally oil-resistant.
- Suitable for outdoor use, considering the temperature range.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
DIN 47100 without colour repetition, refer to Appendix T9

Mutual capacitance
Approx. 120 nF/km

Inductivity
approx. 0.65 mH/km

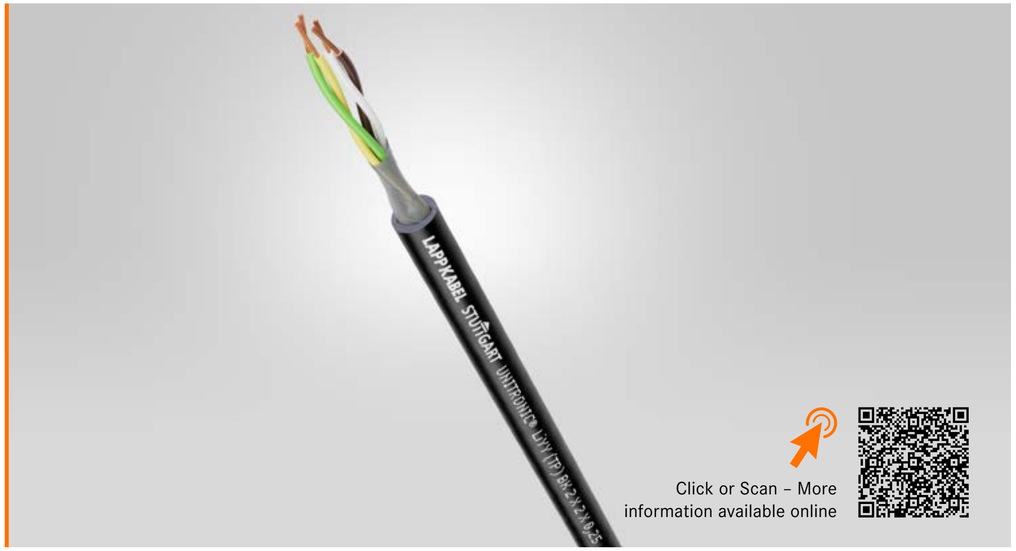
Conductor stranding
Stranded, fine-wire
0.34 mm²: 7-wire

Minimum bending radius
Occasional flexing: 10 x outer diameter
Fixed installation: 4 x outer diameter

Temperature range
Occasional flexing: -5 °C to +70 °C
Fixed installation: -40 °C to +80 °C

Data communication systems

Low frequency data transmission cables • DIN colour code



UNITRONIC® LiYY (TP) BK

Variant with black outer jacket (BK) for outdoor use

Benefit

- Due to the pair stranding (TP, twisted pair) with short lay lengths, the conductor circuits are well decoupled.
- Compact design enables small outer diameters despite high numbers of cores.
- Classified fire behavior according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at https://www.lappkabel.com/cpr.html.

Application

- Universally applicable at machine interfaces for many applications for data and signal transmission in the low frequency range.
- Suitable for computer systems, electronic control and regulating devices, office machines, scales, etc.
- For permanent installation.
- Can be used in dry and damp environments.
- Suitable for light mechanical stress.
- PVC outer sheath is conditionally oil-resistant.
- Suitable for outdoor use, considering the temperature range.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000104
ETIM 5.0 Class-Description: Control cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000104
ETIM 6.0 Class-Description: Control cable

Core identification code
DIN 47100, refer to Appendix T9

Mutual capacitance
Approx. 120 nF/km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine copper wire strands

Minimum bending radius
Occasional flexing: 10 x outer diameter
Fixed installation: 4 x Outer diameter

Temperature range
Occasional flexing: -5 °C to +70 °C
Fixed installation: -40 °C to +80 °C

Cable glands

SKINTOP® cable glands nickel-plated brass metric • Standard

SKINTOP® MS-M 40x1,5 PLUS

WHAT IS NEW? For M40 boreholes but with extended clamping range M50: competitor housings with size M50 can be replaced by EPIC® M40 housings + SKINTOP® MS-M 40x1,5 PLUS.

Benefit

- With extended clamping range (just under M50 bore) for inserting thicker cables with a diameter > 28 mm (compared to SKINTOP® MS-M 40 x 1.5).
- With M40 male thread for precise connection to standard grommet housings with M40 threaded hole.
- No expensive special grommet housing required to connect cables with larger diameter.
- No adapter or extension necessary to screw a cable gland with a larger connection thread onto a grommet housing with a smaller thread.
- Matching standard grommet housings are significantly more space-saving than custom-made grommets with larger overall dimensions or cable glands in conjunction with an adapter or extension.
- Best possible sealing enables protection class IP 68 (10 bar) and IP 69.
- Suitable standard grommet housings are available from stock.

Application

- For assembling a cable with a rectangular connector housing.
- Especially for sealing and strain-relieving insertion of cables > 28 mm into a grommet housing with M40 thread.
- For applications where limited space makes it difficult to use larger connectors.
- Withstands high mechanical and chemical stress.
- Suitable for outdoor use, considering the temperature range.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000441
ETIM 5.0 Class-Description: Cable screw gland

Classification ETIM 6
ETIM 6.0 Class-ID: EC000441
ETIM 6.0 Class-Description: Cable screw gland

Caution
Refer to Appendix T21 for the installation dimensions and torques

Material
Body: nickel-plated brass
Insert: polyamide
Sealing: CR
O-ring: NBR

Protection rating
IP 68 - 10 bar
IP 69 (M12 - M63)
NEMA Type 1, 4x, 6, 12

Temperature range
Dynamic: -25 °C up to +100 °C
Fixed: -40 °C to +100 °C

ETHERNET DATA TRANSMISSION

YOUR HIGHWAY FOR BIG DATA

NEW: Autumn 2021

ETHERLINE® GUARD
Monitoring device for predictive maintenance, suitable for Ethernet data lines (100 Mbit/s) e.g. in PROFINET networks.

ETHERLINE® TORSION CAT.6_A Patchcords
Cat.6_A Ethernet patch cable (10 Gbit/s), assembled on one or both sides, with M12 connector, torsion-proof up to ± 180 °/m.

ETHERLINE® FLEX Cat.6_A Patchcords with ECE R118 approval
Cat.6A Ethernet patch cable (10 Gbit/s), assembled on one or both sides, with M12 or RJ45 connector, for flexible use (also UN/ECE R118).

ETHERLINE® EC FD Cat.5e Patchcords with ECE R118 approval
Assembled on one or both sides, Cat.5e Ethernet patch cable (100 Mbit/s), with M12, M8 or RJ45 connector, for use in drag chains (also UN/ECE R118).

EPIC® DATA TS GOF
GOF adapter for quick connection of patch cables and installation cables in the control cabinet. Suitable for data connectors SC, LC-D, SC-RJ.

Further Highlights

- HITRONIC® GOF DUPLEX PNC
- HITRONIC® GOF DUPLEX PNB
- ETHERLINE® FD Cat.6 Patchcords
- ETHERLINE® T1 Y FLEX
- ETHERLINE® CABINET Cat.6_A Patchcords

ETHERNET DATA TRANSMISSION: YOUR HIGHWAY FOR BIG DATA

ETHERLINE® GUARD

The stationary, absolutely compact monitoring device monitors the performance of your highly loaded ethernet cable at risk of failure and and displays the current cable status. Why perform preventive maintenance if it can also be planned in an optimal way? You too can take advantage of the benefits of predictive maintenance!

ETHERLINE® FLEX CAT.6_A Patchcords with ECE R118 approval

Our Cat.6_A performance factory-assembled data cable can be used for structured building cabling as well as industrial environments. The halogen-free materials also allow use in buses. The assembly is optimally shielded and is available either with RJ45 or M12 connectors.

EPIC® DATA TS GOF

Just plug, no longer splice: The mounting rail adapter connects the glass fibre outside your control cabinet to the patch cable inside your control cabinet. The adapter is suitable for LC-D, SC and SC-RJ connectors, for SM and MM fibres and saves time during installation. For pluggable connections, also in the PROFINET network!

ETHERLINE® TORSION CAT.6_A Patchcords

Plug & Play in torsion applications: This data cable with PUR outer sheath and vibration-resistant M12 connectors can be twisted up to ± 180°/m and reliably transmits signals at speeds up to 10 Gbit/s (Cat. 6_A). A real advantage for robot applications or wind turbines! Can also be used in the PROFINET network.

ETHERLINE® EC FD CAT.5e Patchcords with ECE R118 approval

With its abrasion-resistant PUR outer sheath, the factory-assembled data cable (Cat.5e performance) is suitable for demanding, constantly flexing applications in the cable chain. The halogen-free materials also allow use in buses. The assembly is optimally shielded and is available with RJ45, M8 A-coded or M12 D-coded connectors.

Data communication systems for ETHERNET technology

Industrial Ethernet • Active network components

ETHERLINE® GUARD

Monitoring device for predictive maintenance, suitable for Ethernet data lines (100 Mbit / s) e.g. in PROFINET networks.

Benefit

- Increase plant availability through planned downtimes. This reduces maintenance costs.
- Easy commissioning with automated parameterisation („teach-in“ in seconds).
- Does not require a new data cable or changes to the cable design; upgrade to the existing network structure is possible at any time.
- Space-saving due to unique compact design.
- Reliable Cloud communication thanks to the MQTT interface (for status/data evaluation, settings, WiFi configuration, update, etc.).
- Available in two versions: cable-bound LAN version “PM03T” and wireless WiFi version “PM02TWA”.

Application

- For use in Ethernet-based networks for automation technology.
- For monitoring the service life of a data cable at risk of failure (e.g. function-critical data cable in dynamic applications).
- Suitable for data cables according to transmission standard 100BASE-TX (up to 100 Mbit/s) according to IEEE 802.3.
- Also suitable for EtherCAT, EtherNET/IP and 2-pair PROFINET applications.
- For use in control cabinets (protection class IP 20).

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC000734
ETIM 5.0/6.0 Class-Description: Network switch

Power Supply
DC 24 V (18–30 V DC)

Protection rating
IP20

Temperature range
-40 °C up to +75 °C

Data communication systems for ETHERNET technology

PROFINET, Cat.6_A • Type C - Patch cables for continuous flexing applications

ETHERLINE® TORSION Cat.6_A Patchcords

WHAT IS NEW? Cat.6_A Ethernet patch cable (10 Gbit s), assembled on one or both sides, with M12 connector, torsion-proof up to ± 180 °/m, for use with robots.

Benefit

- Assembled on one or on both sides saves installation time and reduces assembly errors.
- Special core stranding allows rotations with torsion angles up to ± 180°/m. Cable successfully tested for 5 million torsion cycles.
- Ideal protection against electromagnetic interference thanks to pair screening with aluminium compound foil and copper braiding as overall screening (S/FTP).
- Halogen-free core insulation and sheath compound to meet special fire protection requirements.
- The connector‘s integrated vibration protection makes it resistant to shocks and vibrations.
- Cat. 6_A performance up to 10 Gbit/s.
- For transmission of analogue and digital signals in the frequency range up to 500 MHz.

Application

- Cable design enables flexible, constantly flexing use under torsional stress in industrial robots and handling devices.
- Also suitable for torsion applications in wind turbines.
- For flexible use in the PROFINET network (application type C).
- Also suitable for EtherCAT and EtherNET/IP applications.
- Can be used in dry and damp environments.
- The PUR outer sheath withstands high mechanical stress.
- The PUR outer sheath is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.
- Suitable for outdoor use.

Technical Data

Minimum bending radius
Flexing: 15 x outer diameter
Fixed installation: 8 x outer diameter

Protection rating
IP 67
Coding
M12: X-Standard

Temperature range
Flexing: -30 °C to +70 °C
Fixed installation: -30 °C to +80 °C

Data communication systems for ETHERNET technology

Industrial Ethernet, Cat.6_A • Patch cables for flexible applications

ETHERLINE® FLEX Cat.6_A Patchcords

WHAT IS NEW? Cat.6_A Ethernet patch cable (10 Gbit/s), assembled on one or both sides, with M12 or RJ45 connector, for flexible use (also UN/ECE R118).

Benefit

- Assembled on one or on both sides saves installation time and assembly errors.
- Suitable for Ethernet applications information exchange at up to 10 Gbit/s over 60 m thanks to Cat.6_A Ethernet.
- Available with RJ45 or M12 connectors. The slim RJ45 connector enables use in devices with a very high port density, while the integrated vibration protection of the M12 connector is useful in applications with shock and vibrations.
- Ideal protection against electromagnetic interference thanks to pair screening with aluminium compound foil and copper braiding as overall screening (S/FTP).
- Halogen-free core insulation and sheath compound to meet special fire protection requirements.

Application

- For structured building cabling according to EN 50173 and ISO/IEC 11801.
- Also suitable for EtherCAT and EtherNET/IP applications.
- Compliant with standards for use in buses (fire behaviour test according to UN/ECE R118 for vehicles of category M3 (II and III)).
- Can be used in dry, damp and especially in harsh and oily environments.
- The PUR outer sheath is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.

Technical Data

Classification
ETIM 5.0 Class-ID: EC002599
ETIM 5.0 Class-Description: Patch cord copper (twisted pair) industry

Minimum bending radius
Fixed installation: 4 x outer diameter
Flexing: up from 10 x outer diameter

Protection rating
M12: IP 67
RJ45: IP 20

Temperature range
Flexing: -30 °C to +80 °C (M12)
Flexing: -40 °C to +70 °C (RJ45)

Coding
M12: X-Standard

EtherNet/IP

Data communication systems for ETHERNET technology

Industrial Ethernet, Cat.5/5e • Patch cables for continuous flexing applications

ETHERLINE® EC FD Cat.5e Patchcords

WHAT IS NEW? Assembled on one or both sides, Cat.5e Ethernet patch cable (100 Mbit/s), with M12, M8 or RJ45 connector, for use in drag chains (also UN/ECE R118).

Benefit

- Connecting cable assembled on one or on both sides saves installation time and reduces assembly errors.
- High resistance to electromagnetic interference thanks to star quad stranding as well as double shielding made of aluminium-laminated foil and a high degree of coverage (SF/UTP).
- Available with RJ45, M8 or M12D connectors. The slim RJ45 connector enables use in devices with a very high port density, while the integrated vibration protection of the M8/M12D connector is useful for applications with shock and vibrations.
- Angled connectors enable use in space-constrained cabinets
- Halogen-free core insulation and sheath compound to meet special fire protection requirements.
- Cat.5e performance up to 100 Mbit/s.
- For transmission of analogue and digital signals in the frequency range up to 100 MHz.

Application

- Cable design enables highly flexible, constantly flexing use in moving machine parts and in the cable chain.
- Also suitable for EtherCAT and EtherNET/IP applications.
- Compliant with standards for use in buses (fire behaviour test according to UN/ECE R118 for vehicles of category M3 (II and III)).
- Can be used in dry, damp and especially in harsh and oily spaces.
- The PUR outer sheath and connectors withstand high mechanical loads.
- The PUR outer sheath is insensitive to mineral oil-based lubricants and is chemically resistant in many cases.

Technical Data

Classification
ETIM 5.0/6.0: EC002599
Description: Patch cord copper (twisted pair) industry

Minimum bending radius
Flexing: 8 x outer diameter
Fixed installation: 4 x outer diameter

Protection rating
M8: IP 67
M12: IP 67
RJ45: IP 20

Temperature range
During installation: -30 °C to +50 °C
Fixed installation: -30 °C to +80 °C

Coding
M8: A-Standard
M12: D-Standard

EtherNet/IP

NEW

Click or Scan – More information available online

EPIC® DATA TS GOF

GOF adapter for quick connection of patch cables and installation cables in the control cabinet. Suitable for data connectors SC, LC-D, SC-RJ.

Benefit

- Time-saving installation compared to splice boxes: Plugging-in is sufficient, no time-consuming splicing is required.
- Pluggable connections enable quick and easy replacement of devices in the event of defects.
- Space-saving, compact design for mounting directly on 35 mm top-hat rails.
- For orderly cabling in the control cabinet.
- Suitable for LC-D, SC or SC-RJ connectors.
- Can be used with single-mode and multi-mode fibres.

Application

- For creating a pluggable glass fibre connection between permanently installed glass fibre cables and the glass fibre patch cables in the control cabinet.
- Article variants with SC-RJ couplings are suitable for use in the PROFINET network.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-ID: EC001130
ETIM 5.0/6.0 Class-Description: Patch panel fibre optic

Protection rating
IP 20

Temperature range
-10 to + 60 °C (operation)

FURTHER HIGHLIGHTS

Optical transmission systems

GOF - Glass Optical Fibre • Indoor area

Technical Data

Permissible bending radius
without tensile load: 15 x outer diameter
with tensile load: 20 x outer diameter

Permissible tensile force
Fixed installation: 600 N
Short-term: 1000 N

Temperature range
Operating temperature: -20 °C up to 70 °C
During installation: -5 °C to +50 °C
Article

HITRONIC® GOF DUPLEX PNB

Fibre optic breakout cable, GOF, for PROFINET applications type B, LSZH halogen-free.

Benefit

- Halogen-free and highly flame-retardant materials reduce the risk of fire propagation, high smoke density and toxic fumes in case of fire.
- Classified fire behaviour according to EU Directive 305/2011 (BauPVO/CPR) with article number selection at www.lappkabel.de/cpr.
- With non-metallic aramid yarns for strain-relieving effect.
- No generation of electromagnetic interference due to non-metallic materials inside the cable.
- Allows on-site assembly as breakout cable.
- Easy handling due to flexible and compact design.
- Available in different GOF Fiber categories (OM1–OM3, OS2).

Application

- For flexible use in the PROFINET network (type B).
- For use in the control cabinet.
- For structured building cabling of the secondary and tertiary area, according to EN 50173 and ISO/IEC 11801.
- For fixed and protected routing in installation ducts, on cable trays, in the riser zone, in hollow ceilings and floors and for short distances.
- Can be used in dry rooms.
- Outer sheath of the product and inner sheaths of the two individual cables are made of halogen-free LSZH compound.

Optical transmission systems

GOF - Glass Optical Fibre • Indoor area

HITRONIC® GOF DUPLEX PNC

Fibre optic breakout cable, for PROFINET applications type C, PUR halogen-free.

Benefit

- Insensitive product, thanks to abrasion-, notch- and cut-resistant PUR outer sheath material.
- Halogen-free sheathing compound for compliance with special fire protection requirements.
- Durable cable successfully tested to 1.5 million bending cycles in the drag chain and 1.5 million alternating bending cycles in the TicToc bending test.
- Cable construction allows rotations with torsion angles up to ± 180°/m.
- With non-metallic aramid yarns for strain relief.
- No generation of electromagnetic interference due to non-metallic materials inside the cable.
- Allows on-site assembly as breakout cable.
- Available in different GOF fibre categories (OM1–OM3, OS2)

Application

- For highly flexible, permanently moving use in moving machine parts and in the drag chain in the PROFINET network (type C).
- For fixed and protected routing in installation ducts, on cable trays, in the riser zone, in hollow ceilings and floors and for short plugs.
- Can be used in dry rooms.
- PUR outer sheath withstands high mechanical loads.
- PUR outer sheath is insensitive to mineral oil-based lubricants and chemically resistant in many cases.

Technical Data

Permissible bending radius
without tensile load: 15 x outer diameter
with tensile load: 20 x outer diameter

Permissible tensile force
Fixed installation: 1500 N
Short-term: 4000 N

Temperature range
Operation: -40 °C to +70 °C
During installation: -40 °C to +70 °C

Data communication systems for ETHERNET technology

Industrial Ethernet, Cat.6 • Patch cables for continuous flexing applications

ETHERLINE® FD Cat.6 Patchcords

Patchcord for continuous flexing
in drag chains

Benefit

- Fast information exchange with up to 10 Gbit/s over 60 m thanks to Ethernet according to Cat.6.
- Patchcords assembled on one or both sides save time during installation and reduces or eliminates the potential for errors during assembly on site.
- Highly flexible cable construction with separating cross to protect the wire pairs for maximum mechanical stress.
- Integrated vibration protection of the connector makes it insensitive to shock and vibration.
- Ideal protection against electromagnetic interference due to double shielding made of aluminium-laminated foil and copper braid shielding with high degree of coverage (SF/UTP).
- Durable, insensitive product thanks to abrasion-, notch- and cut-resistant PUR outer jacket material.
- Successfully tested for over 4 million bending cycles in the drag chain.

Application

- Cable design for continuous flexing in moving machine parts and in draig chains.
- Also suitable for EtherCAT and EtherNET/IP applications.
- Can be used in dry, damp and especially in rough and oily environments.
- PUR outer sheath and connectors withstand high mechanical stress.
- PUR outer sheath is insensitive to mineral oil-based lubricants and chemically resistant in many cases.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC002599
ETIM 5.0 Class-Description: Patch cord copper (twisted pair) industry

Minimum bending radius
Flexing: 7.5 x outer diameter
Fixed installation: 4 x cable diameter

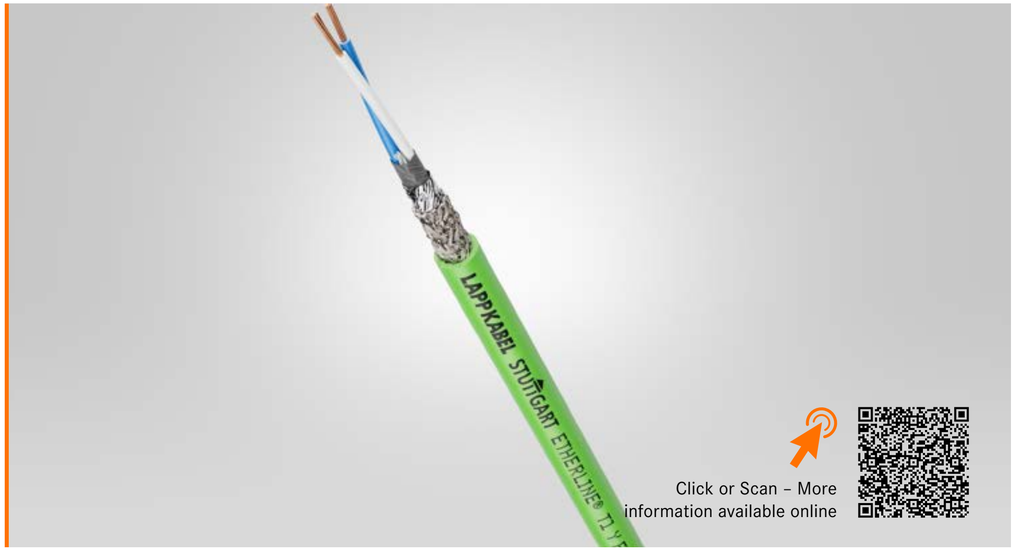
Protection rating
IP 67

Coding
M12: X-Standard

Temperature range
Flexing: -30 °C to +70 °C
Fixed installation: -30 °C to +80 °C

Data communication systems for ETHERNET technology

Industrial Ethernet • Industrial Ethernet for special applications



ETHERLINE® T1 Y FLEX 1x2x22/7AWG

Single-Pair-Ethernet (SPE) is a new Ethernet technology that requires only one pair of wires (instead of two or four pairs) to transmit data.

Benefit

- Fast information exchange through future-proof Single-Pair-Ethernet technology.
- For transmission of analogue and digital signals in the frequency range up to 600 MHz and up to 40 m distance.
- A single-pair cable design saves weight and space. Small bending radii and outer diameters are essential for the connection to the field level.
- Power-over-Data-Line-capable cable according to IEEE 802.3bu for simultaneous power and data supply of SPE terminals with low energy requirements (up to 50 W).
- Ideal protection against electromagnetic interference due to double shielding of aluminum-clad foil and copper braided shield with high coverage (SF/UTP).
- UL-/CSA-certification according to technical data allows use of the product in the North American area.

Application

- For structured cabling according to DIN EN 50173 and ISO/IEC 11801.
- For Single-Pair-Ethernet applications 100Base-T1 according to IEEE 802.3bw and 1000Base-T1 according to IEEE 802.3bp.
- For flexible use.
- Listed as Power Limited Tray Cable (PLTC) according to UL, for open installation on cable trays.
- Can be used in dry and damp rooms.
- Suitable for medium mechanical stress.
- PVC outer sheath is resistant to acids and alkalis and conditionally oil resistant.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000830
ETIM 5.0 Class-Description: Data cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000830
ETIM 6.0 Class-Description: Data cable

Peak operating voltage
(not for power applications) 125 V

Minimum bending radius
Flexing: 15 x outer diameter
Fixed installation: 8 x outer diameter

Test voltage
C/C: 2000 V
C/S: 2000 V

Characteristic impedance
nom. 100 Ω

Temperature range
Fixed installation: -40 °C to +80 °C
Flexing: -30 °C to +70 °C

Data communication systems for ETHERNET technology

Industrial Ethernet • Industrial Ethernet for special applications

ETHERLINE® PN CABINET Cat.6$_A$ Patchcords

PROFINET® Cat.6$_A$ – Cabinet Cords

Technical Data

Klassifikation ETIM 5
ETIM 5.0 Class-ID: EC002599
ETIM 5.0 Class-Description: Patchcords Copper Industry

Minimum bending radius
Fixed installation: 4 x outer diameter
Flexing:: 10 x outer diameter

Temperature range
-40 °C to +70 °C

Benefit

- Fast information exchange with up to 10 Gbit/s over 60 m thanks to Ethernet according to Cat.6$_A$.
- Patchcord assembled on both sides saves time and eliminates the potential for errors when assembling on site.
- Compact RJ45 connector allows use in devices with very high port density.
- Cable design allows small bending radii and is optimal for space-saving installation in confined spaces.
- Ideal protection against electromagnetic interference due to pair shielding with aluminum composite foil and copper braiding as overall shielding (S/FTP).
- UL/CSA certification according to technical data allows the product to be used in North America.
- Durable, insensitive product thanks to abrasion-, notch- and cut-resistant PUR outer sheath material.

Application

- For cabinet wiring in the PROFINET® network.
- Also suitable for EtherCAT and EtherNET/IP applications.
- Can be used in dry rooms.
- PUR outer sheath and connectors withstand high mechanical stress.
- PUR outer sheath is insensitive to mineral oil-based lubricants and chemically resistant in many cases.
- Flexible use possible at up to -40 °C.

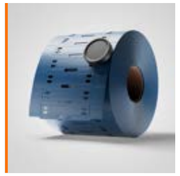
FOOD & BEVERAGE INDUSTRY

PRODUCTS THAT MEET STRICT QUALITY STANDARDS

NEW: Autumn 2021

FLEXIMARK® Cablelabel detectable
Detectable cable label for the food industry. temperature-resistant, compatible with FLEXIMARK® thermal transfer printer and FLEXIMARK® software.

FOOD & BEVERAGE INDUSTRY: PRODUCTS THAT MEET STRICT QUALITY STANDARDS



FLEXIMARK® DETECTABLE CABLE LABEL

There‘s no hiding! The temperature and oil-resistant thermal transfer printing label is suitable for demanding environments such as the F&B sector or food packaging plants, where labels must be detectable. It complies with FDA 21 CFR – GRAS and supports you in implementing the HACCP hygiene concept.

Marking systems

FLEXIMARK® Labels for thermal transfer printing • Cable and single core marking

FLEXIMARK® Cablelabel detectable

Detectable cable label for the food industry. Temperature-resistant, compatible with FLEXIMARK® thermal transfer printer and FLEXIMARK® software.

Benefit

- Detectable by X-ray or magnetic metal detectors thanks to tiny metal particles in the material. If a label accidentally enters the direct production environment of food, it can be located more easily. This means that expensive plant shutdowns can be avoided.
- Use of the product helps food processing companies to implement the HACCP (Hazard Analysis Critical Control Point) concept.
- Compliant with FDA 21 CFR - GRAS (Generally Recognized as Safe). Quality standard for the food and beverage industry in North America.
- Compliant with Regulation (EU) No. 10/2011 on plastic materials and articles specifically for the food and beverage industry in Europe.
- Thermal transfer printing process produces durable, smudge and scratch resistant labels that are resistant to aggressive media, microorganisms as well as oils.
- Withstands temperatures up to +115°C for short periods and is hydrolysis-resistant, a property that is crucial for frequent cleaning processes with hot water or steam.
- Flexible material enables easy assembly with 1 or 2 detectable cable ties.
- In the colour blue to easily distinguish from foodstuffs.

Application

- For marking single cores, cables and components in demanding industries. Typical areas of application are the food industry and packaging plants.
- Printable with FLEXIMARK® thermal transfer printers.
- Printable with FLEXIMARK® software 11.0.
- Suitable for outdoor use.

Technical Data

Classification ETIM 5/6
ETIM 5.0/6.0 Class-Description: Cable coding system

Material
Halogen-free polyurethane (TPU)

Temperature range
-40 °C to +105 °C
Could also withstand +115 °C in the short term

ROLLING STOCK

CONNECTION SOLUTIONS FOR RAILWAY TECHNOLOGY

NEW: Autumn 2021

ÖLFLEX® TRAIN 4GKW-C
Halogen-free, shielded single core cable for rail vehicles, electron beam cross-linked insulating materials, tested fire behavior according to EN 45545-2.

Further Highlights

ÖLFLEX® TRAIN 331 600V

ROLLING STOCK:
CONNECTION SOLUTIONS FOR RAILWAY TECHNOLOGY

ÖLFLEX® TRAIN 4GKW C

For maximum safety in the event of a fire: Our halogen-free electron beam cross-linked power cable is suitable for a wide range of applications with high nominal voltage in rail vehicles. The copper braiding provides ideal protection against electromagnetic interference. You can choose from 16 different conductor cross-sections up to 300 mm².

Power & Control

Special applications • Rolling stock

ÖLFLEX® TRAIN 4GKW C

Halogen-free, shielded single core cable for rail vehicles, electron beam cross-linked insulating materials, tested fire behavior according to EN 45545-2“.

Benefit

- For protection against damage to people and property.
- Compliant with standards for use in rail vehicles: fire safety and cable design requirements according to EN 50264-3-1, type OM; fire behaviour test according to EN 45545-2, hazard levels HL1, HL2 and HL3.
- Fire behaviour for rail vehicles compliant with BS 6853 and NFPA 130.
- Electron beam cross-linked insulating material enables use at low and high temperatures (-40°C to +125°C).
- Ideal protection against electromagnetic interference thanks to copper braiding with a high degree of coverage.
- Halogen-free and highly flame-retardant materials reduce the risk of flame propagation, high smoke density and toxicity of smoke gases in the event of a fire.

Application

- Versatile use in rail vehicles.
- Typical areas of application include switchgear, distributors, converters and braking systems etc.
- For fixed and protected installation.
- Can be used in dry, damp and especially in harsh and oily environments.
- The electron beam cross-linked polymer compound is highly resistant to oils, fuels, alkalis and acids.

Technical Data

Conductor stranding
Fine wired acc. to IEC 60228 class 5

Minimum bending radius
Fixed installation : ≤ 12 mm : 4 x OD / 3 x OD*, > 12 mm : 5 x OD / 4 x OD*, * for careful bending, once at connecting terminal

Nominal voltage
U_0/U AC 1.8 / 3.0 kV, Um AC 3.6kV, V_0 DC 2.7kV

Temperature range
Fixed installation : -40°C up to +125 °C max.
Occasional flexing : -35 °C up to +90 °C max.

FURTHER HIGHLIGHTS

Power and control cables

Special applications • Rolling stock

ÖLFLEX® TRAIN 331 600V

Our single-core cable for rolling stock is now also available in other dimensions (0.5 + 0.75 mm²) as well as additional colors (BN, GN, YE, WH, GY, OG, VT).

Benefits

- For the protection of persons and property.
- Can be used in rail vehicles in compliance with typical standards: Requirements for fire safety and cable construction according to DIN EN 50264-3-1, type M; testing of fire behavior according to DIN EN 45545-2, hazard levels HL1, HL2 and HL3.
- Fire behavior also certified according to AFNOR NF test standards (depending on article, see Technical Data).
- Electron beam cross-linked insulating material enables use at low and high temperatures (-50 °C to 120 °C or 145 °C (3,000 h)).
- Halogen-free and highly flame-retardant materials reduce the risk of fire propagation, high smoke density and toxic fumes in case of fire.

Application

- Can be used in a variety of applications in rail vehicles.
- Typical applications are driver‘s desks, converters, control cabinets and panels, lighting, etc.
- For fixed, protected installation and for applications where limited movement may occur.
- Can be used in dry, damp and especially in rough and oily environments.
- Electron beam cross-linked polymer compound is highly resistant to oils, fuel, alkalis and acids.
- Black versions are suitable for outdoor use.

Technical Data

Classification ETIM 5
ETIM 5.0 Class-ID: EC000993
ETIM 5.0 Class-Description: Single core cable

Classification ETIM 6
ETIM 6.0 Class-ID: EC000993
ETIM 6.0 Class-Description: Single core cable

Conductor stranding
Fine-wired/ Finely stranded according to IEC 60228, conductor class 5

Minimum bending radius
Fixed installation:
≤ 12 mm: 3 x OD
> 12 mm: 4 x OD
Occasional flexing:
≤ 12 mm: 4 x OD
> 12 mm ≤ 20 mm: 5 x OD
> 20 mm: 6 x OD
(OD = outer diameter)

Nominal voltage
U_0/U AC 0.6/1 kV
U_m AC 1.2 kV
V_0 DC 0.9 kV

Test voltage
3,5 kV AC; 8,4 kV DC

Temperature range
Fixed installation:
-45 °C to +120 °C (20.000 h)
-50 °C acc. to GOST 20.57.406-81
Occasional flexing:
-35 °C to +90 °C
Short circuit: +200 °C (5s)

STORAGE, TRANSPORT, PROCESSING

OUR SMART TRANSPORT AND LOGISTICS SOLUTIONS

TRONIC Module single core cart Climber
Single-core trolley with stair climbing function for accommodating 12 single single cores

Tools and cable accessories

Transporting, storing, unwinding • Single core shelves

TRONIC Module single core cart Climber

Article extension to the TRONIC products.
Focus: Stair climbing function

Benefits

- Mobile means of transport for single cores ensures high flexibility at the place of use and reduces walking distances.
- With specially arranged wheels that make climbing stairs easier. No need to carry heavy loads.
- Tyres suitable for various surfaces.
- Serves at the same time as a practical and safe storage possibility for several single wires and thus enables a tidy and clear workplace.
- Safe unwinding of the single strands, due to the horizontal pull-off without twist.
- Direct material removal at the point of use enables easier and faster further processing of the single cores.
- Quick and easy reloading for user-friendly handling.
- A tray for tools and smaller work equipment is optionally available.

Application

- For transporting storing, and unwinding single cores.
- Especially suitable to overcome stairs and other barriers.
- The 6 included TRONIC modules can be equipped with up to 12 single cores or the matching single core excess lengths.
- Suitable for indoor and outdoor use.

Technical data

Dimensions
Fits for cable rings:
Cable outer diameter: max. 10 mm
Coil Diameter: max. 295 mm
Inner diameter: 80–180 mm
Heigth: max. 80 mm

General data
Max. load per TRONIC: 7 kg

Material
Painted steel

LEGEND

NEW PRODUCT

PRODUCT EXTENSION

PRODUCT CHARACTERISTICS


Suitable for outdoor use


Good chemical resistance


Flame-retardant

Wide clamping range


Halogen-free


Heat-resistant


Cold-resistant


Corrosion-resistant


Maximum vibration protection


Mechanical resistance


Assembly time


Low weight


Oil-resistant


Optimum strain relief


Space requirement


Power Chain


Clean room


Robust


Acid-resistant


Reliability


Integrated SKINTOP® cable gland


Voltage


Connector with standard housing unit


Interference signals

Temperature-resistant


Torsion-resistant


Torsion load

UV-resistant


Waterproof


Variety of approval certifications


Submersible use

Please note:
The purpose of the icons is to provide you with a quick overview and a rough indication of the product features to which the corresponding information relates. You can find details of product characteristics in the “technical data” sections on the product pages.

ÖLFLEX®
Power and control cables

EPIC®
Industrial connectors

UNITRONIC®
Data communication systems

SKINTOP®
Cable glands

ETHERLINE®
Data communication systems
for ETHERNET technology

SILVYN®
Protective cable conduit systems
and cable carrier systems

HITRONIC®
Optical transmission systems

FLEXIMARK®
Marking systems

Note: A detailed article list is available online or from your contact person.

Click or Scan

Due to the current material shortages,
delivery times may be longer.

LAPP